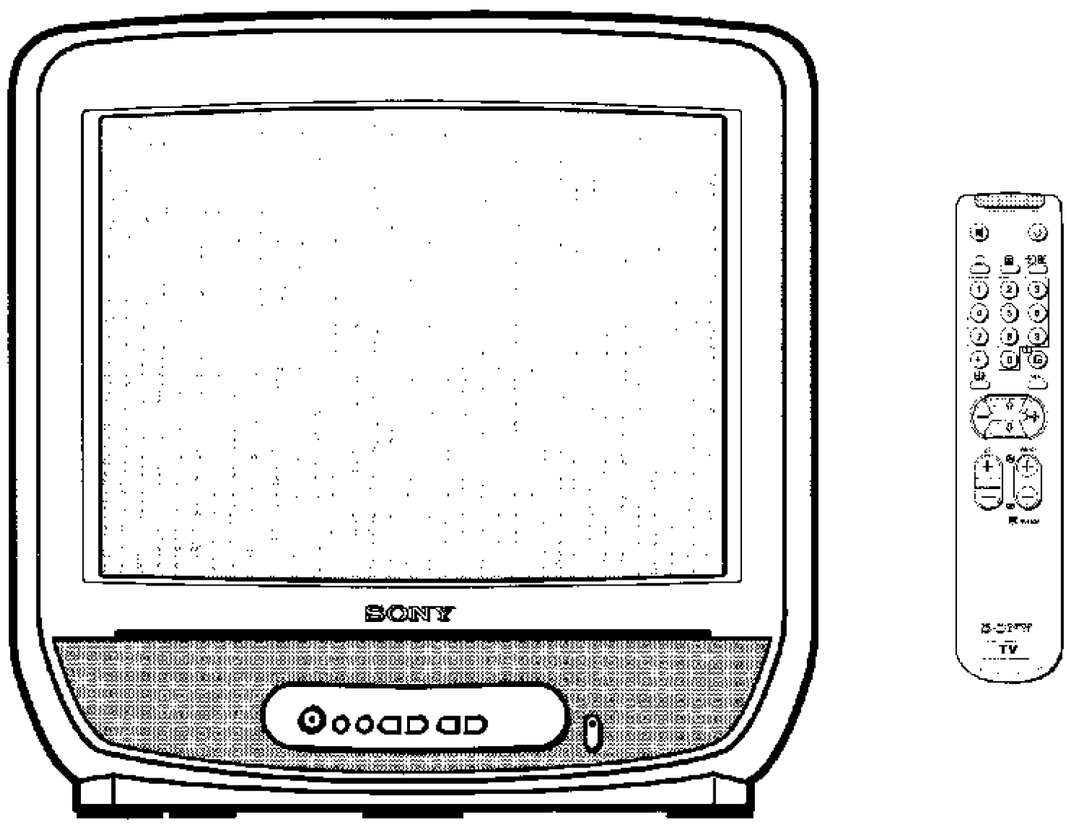
SERVICE MANUAL

BE-4 CHASSIS

MODEL	COMMANDER	DEST.	CHASSIS NO.
KV-M1440A	RM-836	Italian	SCC-H64A-A
KV-M1441A	RM-836	Italian	SCC-H64B-A
KV-M1440B	RM-836	French	SCC-H65A-A
KV-M1441B	RM-836	French	SCC-H65B-A
KV-M1440D	RM-836	AEP	SCC-H46B-A
KV-M1441D	RM-836	AEP	SCC-H46A-A
KV-M1440E	RM-836	Spanish	SCC-H66A-A
KV-M1441E	RM-836	Spanish	SCC-H66B-A
KV-M1440K	RM-836	OIRT	SCC-H52A-A
KV-M1441K	RM-836	OtRT	SCC-H52B-A
KV-M1441KR	RM-836	Russian	SCC-H52C-A
KV-M1440L	RM-836	Irish	SCC-H51A-A
KV-M1440U	RM-836	UK	SCC-H50B-A
KV-M1441L	RM-836	UK	SCC-H50A-A



MICROFILM

TRINITRON® COLOR TV

SONY®

ITEM MODEL	Television System	Channel Coverage	Color System
Italian	B/G/H	VHF: E2-E12, S1-S20 UHF: E21-E69	PAL
French	B/G/H, L	VHF: E2-E12, S1-S20, F2-F10, B-Q UHF: E21-E69, S21-S41, F21-F69	PAL, SECAM
AEP	B/G/H	VHF: E2-E12, S1-S20 UHF: E21-E69, S21-S41	PAL, SECAM
Spanish	B/G/H	VHF: E2-E12, S1-S20 UHF: E21-E69, S21-S41	PAL
OIRT Russian	B/G, D/K	B/G VHF: E2-E12 UHF: E21-E69 Hyper: S1-S41 (KV-M1440K/M1441K) Super: S1-S20 (KV-M1441KR) D/K VHF: R01-R12 UHF: R21-R69	PAL, SECAM NTSC3.58/4.43 (video input only)
Irish UK	I	VHF: A-J (KV-M1440L) UHF: 21-69 Huper: S1-S41 (KV-M1440L)	PAL

MODEL	Italian	French	AEP	Spanish	OIRT Russian	Irish UK
Power Consumption	39W	39W	39W	39W	39W	50W

SPECIFICATIONS

Input/Output Terminals

[INPUTS]

- 1 21-pin connector (CENELEC standard)
  - audio / video input
  - RGB input

[OUTPUTS]

Ω Headphone jack : minijack

Sound output 2W (RMS)
3W (music power)

Dimensions With swivel 367x389x410 mm approx.
Without swivel 367x369x410 mm approx.

Weight Approx. 10.0kg

Supplied accessories RM-836 Remote Commander (1)
IEC designated batteries (2)
Swivel stand (1)
Aerial (1)
Aerial connector with built-in 300-75 matching transformer (1) (KV-M1440A/M1441A/M1440B/M1441B/M1440D/M1441D/M1440E/M1441E/M1440K/ M1441K/M1441KR/M1440L)

Other features TELETEXT (KV-M1441A/M1441B/M1441D/M1441E/M1441K/M1441KR/M1441U)

Picture Tube Black Trinitron
Approx. 37 cm (14 inches)
(Approx. 34 cm picture measured diagonally)
90° -deflection

[RM-836]

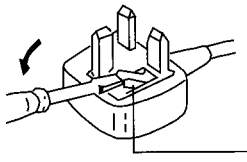
Remote control system	infrared control
Power requirements	3V dc (2 batteries) R6 (size AA)
Dimensions	Approx. 210x45x24 mm (w/h/d)
Weight	Approx. 90g (Not including batteries)

Design and specifications are subject to change without notice.

Item \ Model name	KV-M1440A KV-M1441A	KV-M1440B KV-M1441B	KV-M1440D KV-M1441D	KV-M1440E KV-M1441E	KV-M1440K KV-M1441K KV-M1441KR	KV-M1440L KV-M1440U KV-M1441U
Pal Comb	OFF	OFF	OFF	OFF	OFF	OFF
PIP	OFF	OFF	OFF	OFF	OFF	OFF
RGB Priority	ON	ON	ON	ON	ON	ON
Woofer Box	OFF	OFF	OFF	OFF	OFF	OFF
Scart 1	ON	ON	ON	ON	ON	ON
Scart 2	OFF	OFF	OFF	OFF	OFF	OFF
Front in (3)	OFF	OFF	OFF	OFF	OFF	OFF
Scart 4	OFF	OFF	OFF	OFF	OFF	OFF
Projector	OFF	OFF	OFF	OFF	OFF	OFF
AKB in 16:9 mode	OFF	OFF	OFF	OFF	OFF	OFF
Norm B/G/H	ON	ON	ON	ON	ON	OFF
Norm I	OFF	OFF	OFF	OFF	OFF	ON
Norm D/K	OFF	OFF	OFF	OFF	ON	OFF
Norm AUS	OFF	OFF	OFF	OFF	OFF	OFF
Norm L	OFF	ON	OFF	OFF	OFF	OFF
Norm SAT	OFF	OFF	OFF	OFF	OFF	OFF
Norm M	OFF	OFF	OFF	OFF	OFF	OFF
Language Preset	Italian	French	German	Spanish	OIRT	English

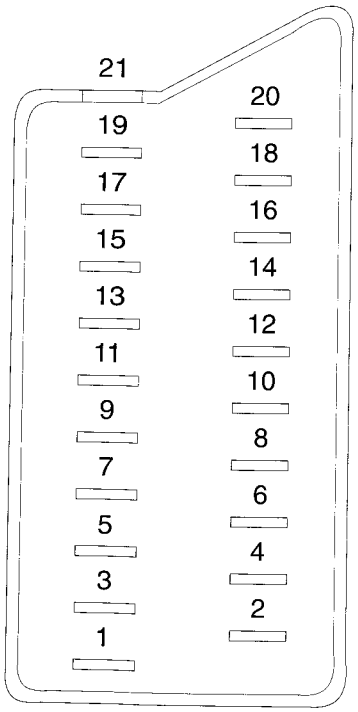
WARNING (KV-M1440L/M1440U/M1441U only)

The flexible mains lead is supplied connected to a **B.S. 1363** fused plug having a fuse of **5 AMP** capacity. Should the fuse need to be replaced, use a **5 AMP FUSE** approved by **ASTA** to **BS 1362**, ie one that carries the ASTA mark.
IF THE PLUG SUPPLIED WITH THIS APPLIANCE IS NOT SUITABLE FOR YOUR SOCKET OUTLETS IN YOUR HOME.
IT SHOULD BE CUT OFF AND AN APPROPRIATE PLUG FITTED.
THE PLUG SEVERED FROM THE MAINS LEAD MUST BE DESTROYED AS A PLUG WITH BARED WIRES IS DANGEROUS IF ENGAGED IN A LIVE SOCKET OUTLET.
When an alternative type of plug is used it should be fitted with a **5 AMP FUSE**, otherwise the circuit should be protected by a **5 AMP FUSE** at the distribution board.



How to replace the fuse.
Open the fuse compartment with the screwdriver blade and replace the fuse.

21 pin connector (1)



Pin No		Signal	Signal level
1	○	Audio output B (right)	Standard level: 0.5Vrms Output impedance:less than 1kohm*
2	○	Audio input B (right)	Standard level:0.5Vrms Input impedance:More than 10kohms*
3	○	Audio output A (left)	Standard level:0.5Vrms Output impedance:less than 1kohm*
4	○	Ground (audio)	
5	○	Ground (blue)	
6	○	Audio input A (left)	Standard level:0.5Vrms Input impedance:More than 10kohms*
7	○	Blue input	0.7V±3dB, 75ohms, positive
8	○	Function select (AV control)	High state (9.5—12V):Part mode Low state (0—2V):TV mode Input impedance:More than 10kohms Input capacitance:Less than 2nF
9	○	Ground (green)	
10	○	Open	
11	○	Green	Green signal:0.7V±3dB. 75ohms, positive
12	○	Open	
13	○	Ground(red)	
14	●	Ground (blanking)	
15	○	Red input	0.7V±3dB, 75ohms, positive
	—	(S signal) croma input	0.3V±3dB, 75ohms, positive
16	○	Blanking input (Ys signal)	High state (1—3V) Low state (0—0.4V) Input impedance:75ohms
17	○	Ground (video output)	
18	○	Ground (video input)	
19	○	Video output	1V±3dB, 75ohms, positive Sync:0.3V(–3, +10dB)
20	○	Video input	1V±3dB, 75ohms, positive Sync:0.3V(–3, +10dB)
	—	Video Input/Y (S signal)	1V±3dB, 75ohms, positive Sync:0.3V(–3, +10dB)
21	○	Common ground (plug, shield)	

○ Connected ● Not Connected (open) * at 20Hz - 20kHz

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CAUTION

SHORT CIRCUIT THE ANODE OF THE PICTURE TUBE AND THE ANODE CAP TO THE METAL CHASSIS, CRT SHIELD, OR CARBON PAINTED ON THE CRT, AFTER REMOVAL OF THE ANODE CAP.

WARNING !!

AN ISOLATING TRANSFORMER SHOULD BE USED DURING ANY SERVICE WORK TO AVOID POSSIBLE SHOCK HAZARD, DUE TO A LIVE CHASSIS. THE CHASSIS OF THIS RECEIVER IS DIRECTLY CONNECTED TO THE AC POWER LINE.

SAFETY-RELATED COMPONENT WARNING !!

COMPONENTS IDENTIFIED BY SHADING AND MARKED ! ON THE SCHEMATIC DIAGRAMS, EXPLODED VIEWS AND IN THE PARTS LIST ARE CRITICAL FOR SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

ATTENTION

APRES AVOIR DECONNECTE LE CAP DE L'ANODE, COURT-CIRCUITER L'ANODE DU TUBE CATHODIQUE ET CELUI DE L'ANODE DU CAP AU CHASSIS METALLIQUE DE L'APPAREIL, OU AU COUCHE DE CARBONE PEINTE SUR LE TUBE CATHODIQUE OU AU BLINDAGE DU TUBE CATHODIQUE.

ATTENTION !!

AFIN D'EVITER TOUT RISQUE D'ELECTROCUTION PROVENANT D'UN CHÁSSIS SOUS TENSION, UN TRANSFORMATEUR D'ISOLEMENT DOIT ETRE UTILISÈ LORS DE TOUT DÈPANNAGE. LE CHÁSSIS DE CE RÈCEPTEUR EST DIRECTEMENT RACCORDÈ Á L'ALIMENTATION SECTEUR.

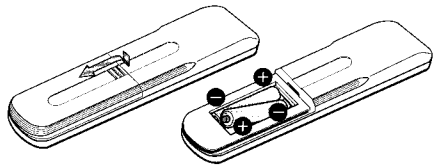
ATTENTION AUX COMPOSANTS RELATIFS Á LA SÈCURITÈ !!

LES COMPOSANTS IDENTIFIÈS PAR UNE TRAME ET PAR UNE MARQUE ! SUR LES SCHÈMAS DE PRINCIPE, LES VUES EXPLOSÈES ET LES LISTES DE PIECES SONT D'UNE IMPORTANCE CRITIQUE POUR LA SÈCURITÈ DU FONCTIONNEMENT, NE LES REMPLACER QUE PAR DES COMPOSANTS SONY DONT LE NUMÈRO DE PIÈCE EST INDIQUÈ DANS LE PRÈSENT MANUEL OU DANS DES SUPPLÈMENTS PUBLIÈS PAR SONY.

SECTION 1 GENERAL

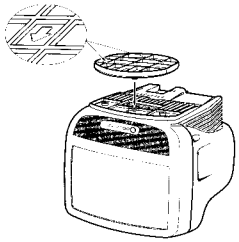
Step 1

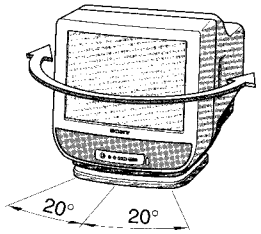
Inserting the Batteries into the Remote Commander



Step 2

Installing the Swivel





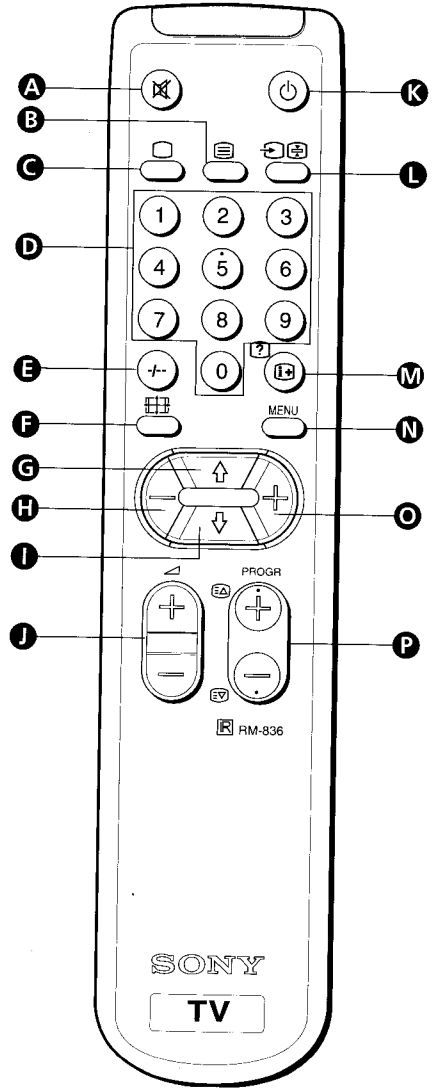
1 Turn the TV upside down onto a soft base.

2 Check that the arrows point forward and clip the swivel to the base of the TV.

3 Turn the TV again.

4 Use the swivel to bring the TV into the optimum viewing position.

The operating instructions mentioned here are partial abstracts from the Operating Instruction Manual. The page numbers of the Operating Instruction Manual remain as in the manual.



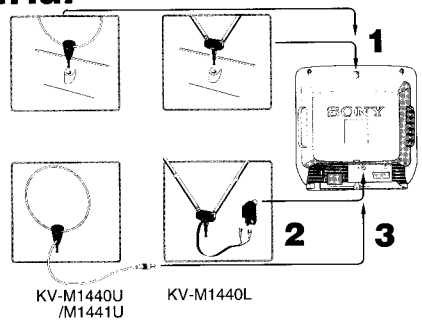
Step 3

Connecting the Aerial

If you connect a VCR, skip to step 4.

Connect an external aerial to the socket X.

Where an external aerial is not available connect the indoor aerial supplied:



1 Insert the supplied aerial into the opening on top of the set.

2 **(KV-M1440L only)**
Loosen the screws of the aerial clips, insert the aerial clips and tighten the screws.

3 Connect the aerial to the socket X on the rear of the set.

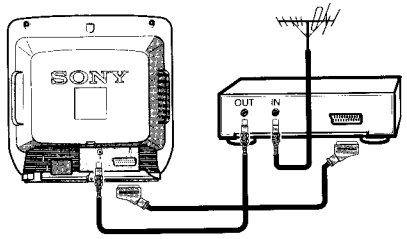
4 Adjust the aerial for optimum reception.

For the customers of KV-M1440U/M1441U

- Ensure that the supplied loop aerial is fitted correctly into the opening on top of the set.
- Do not use this aerial with any other TV product.

Step 4

Connecting a VCR



- It is recommended to tune in the VCR signal to programme number "0". For details, see "Presetting Channels Manually" on page 13.

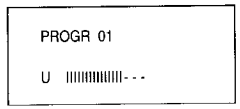
Step 5

Presetting Channels Automatically

TV searches for all available channels. If manual tuning is preferred see Menu option - Presetting Channels Manually.

1 Plug into mains.
Depress power switch ⏻ W on TV set.

2 Press and hold ⏭ S on TV set for 2 seconds.
Auto tuning starts and screen shows.



Notes
- When Auto tuning stops the programme on position 1 is seen.
- KV-M1441U only – channels are automatically stored as follows:

  Programme 1 BBC1
  Programme 2 BBC2
  Programme 3 ITV
  Programme 4 CH4 or S4C

TV Operation

This section explains functions used whilst watching TV. Most operations are carried out using the Remote Commander.

To	Press
Switch on	⏻ W on TV
Switch off temporarily	⏻ K *TV is now in standby mode, ⏻ indicator V on TV lights.*
Switch on again	🖵 C, PROGR +/- P U or any number button D
Switch off completely	⏻ W on TV *To save energy we recommend switching off completely when TV is not in use.*
Select programmes	PROGR +/- P U or number buttons D *For double digit numbers press -/-- E then the number e.g. For 23, press -/-- E then 2 and 3.*
Display the programme number	🖵+ M *Press again to make programme number disappear.*
Adjust the volume	🔊+/- J T
Mute the sound	🔇 A *Press again to restore sound.*
View video input	⏎ L R *Press again to return to TV programme.*
View programmes in 16:9 mode	▭ F *Press again to return to 4:3 mode.*

Viewing Teletext

Teletext is an information service broadcast by TV stations.

1 Select the channel which carries the teletext service you wish to receive.

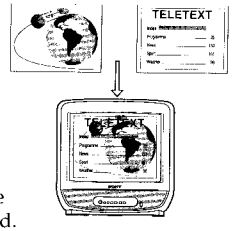
2 Press ☰ B to switch on teletext.

3 Input three digits for the page number using the programme number buttons D or PROGR +/- P U.

4 Press 🖵 C to switch off teletext.

Note • Teletext errors may occur if the broadcasting signals are weak.

Using Other Teletext Functions



Superimposing teletext on the TV

Press ☰ B once in teletext mode or twice in TV mode to superimpose teletext on the TV screen.
Press ☰ B again to cancel superimposing.

Freezing a teletext subpage

Press ⏸ L (HOLD) to freeze the subpage. Freezing the page prevents the information that is displayed from being updated.
Press ⏸ L to cancel HOLD and allow update to continue.

Revealing concealed information (eg: answers to a quiz)

Press ? M to reveal information.
Press again to conceal the information.

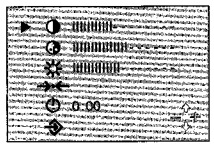
Using colour buttons to access pages

When the colour coded menu appears at the bottom of a page, press the colour button (red, green, blue or yellow) G H I O to access the corresponding page.

Note • A programme status message in a blue box may appear when you change programmes (depends on broadcasters).

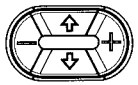
Use buttons on Remote Commander to control Menu screen.

MENU Ⓝ
Menu Screen
on/off



Green Ⓖ
scroll up

Red Ⓗ
decrease



Yellow Ⓞ
increase/confirm(OK)

Blue Ⓘ
scroll down

Adjusting the Picture

1 Press MENU Ⓝ.

2 Press green Ⓖ or blue Ⓘ button to select the item you wish to change.

Symbol	Item	-	Effect	+
◑	Picture	Less		More
◕	Colour	Less		More
☼	Brightness	Darker		Brighter

3 Press red Ⓗ or yellow Ⓞ button to change levels.

4 Press MENU Ⓝ to return to normal TV screen.

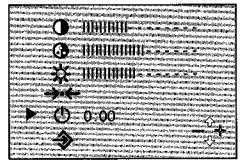
Note • To reset to factory preset picture levels, press green Ⓖ or blue Ⓘ button to select →•← and press yellow (OK) Ⓞ button.

Using the Sleep Timer

The TV may be set to switch to the standby mode automatically after a length of time chosen by you. You may set the time in 30 minutes steps up to 4 hours.

1 Press MENU Ⓝ.

2 Press green Ⓖ or blue Ⓘ button to select ⏻.



3 Press red Ⓗ or yellow Ⓞ button to set time delay.
0.00 (OFF) 0.30 1.00 1.30 .... 4.00

4 Press MENU Ⓝ to return to normal TV screen.
When watching TV, press ⓘ Ⓜ to display time remaining.

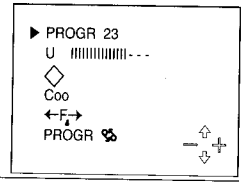
Presetting Channels Manually

Up to 60 programme positions are available for presetting channels.

1 Press MENU ⓝ.

2 Press green Ⓖ or blue Ⓘ button to select ⇨ and press yellow (OK) Ⓞ button.

3 Select programme number using PROGR +/- Ⓟ Ⓤ or the number buttons Ⓓ.



4 Press green Ⓖ or blue Ⓘ button to select tuning bar (|||||····) and press red Ⓗ or yellow Ⓞ button to start channel search. When a channel is found the tuning bar stops moving and you see the picture.

5 If you want to store, press green Ⓖ or blue Ⓘ button to select ◇ and press yellow (OK) Ⓞ button. If you do not want to store, press red Ⓗ or yellow Ⓞ button to continue search.

6 Repeat steps 3 to 5 for all other channels.

7 Press MENU ⓝ to return to normal TV screen.

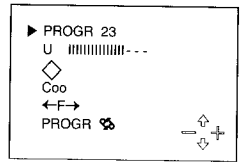
Skipping Programme Positions

You can skip unused programme positions when selecting channels with the PROGR +/- Ⓟ Ⓤ buttons. You can still select them, however, using the number buttons Ⓓ.

1 Press MENU ⓝ.

2 Press green Ⓖ or blue Ⓘ button to select ⇨ and press yellow Ⓞ button.

3 Select programme number you want to skip using PROGR +/- Ⓟ Ⓤ button or number buttons Ⓓ.



4 Press green Ⓖ or blue Ⓘ button to select Coo and press yellow (OK) Ⓞ button.

5 Press green Ⓖ or blue Ⓘ button to select ◇ and press yellow (OK) Ⓞ button to store.

6 Repeat steps 3 to 5 for other unused programme positions.

7 Press MENU ⓝ to return to normal TV screen.

Fine-Tuning Channels

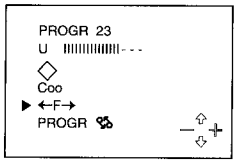
You can fine tune a stored channel if necessary.

1 Select the channel you wish to fine tune.

2 Press MENU ⓝ.

3 Press green Ⓖ or blue Ⓘ button to select ⇳ and press yellow (OK) Ⓞ button.

4 Press green Ⓖ or blue Ⓘ button to select ←F→ and use red Ⓗ or yellow Ⓞ button to adjust tuning.



5 Press green Ⓖ or blue Ⓘ button to select ◇ and press yellow (OK) Ⓞ button to store.

6 Press MENU ⓝ to return to normal TV screen.

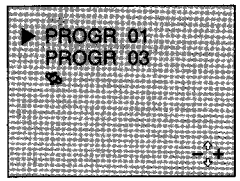
Exchanging Programme Positions

After tuning you may wish to rearrange the programme positions.

1 Press MENU ⓝ.

2 Press green Ⓖ or blue Ⓘ button to select ⇳ and press yellow (OK) Ⓞ button.

3 Press green Ⓖ or blue Ⓘ button to select PROGR and press yellow (OK) Ⓞ button.



4 Press red Ⓗ or yellow Ⓞ button to select the first programme position.

5 Press the blue Ⓘ button.

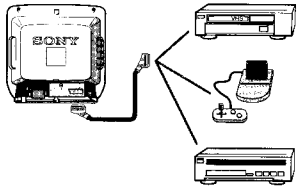
6 Press the red Ⓗ or yellow Ⓞ button to select the second programme position.

7 Press blue Ⓘ button to select and press yellow (OK) Ⓞ button to exchange.

8 Repeat steps 4 to 7 for other programme positions.

9 Press MENU ⓝ to return to normal TV screen.

Using the 21-pin Connector



Your TV has one 21-pin connector Y on the rear of the set. You can connect optional audio or video equipment to this connector, such as a VCR, video games or a video disc player.

1 Press ⇄ L R to view the video input signal.

2 Press ⇄ L R or ▢ C to return to normal TV screen.

Connecting Headphones

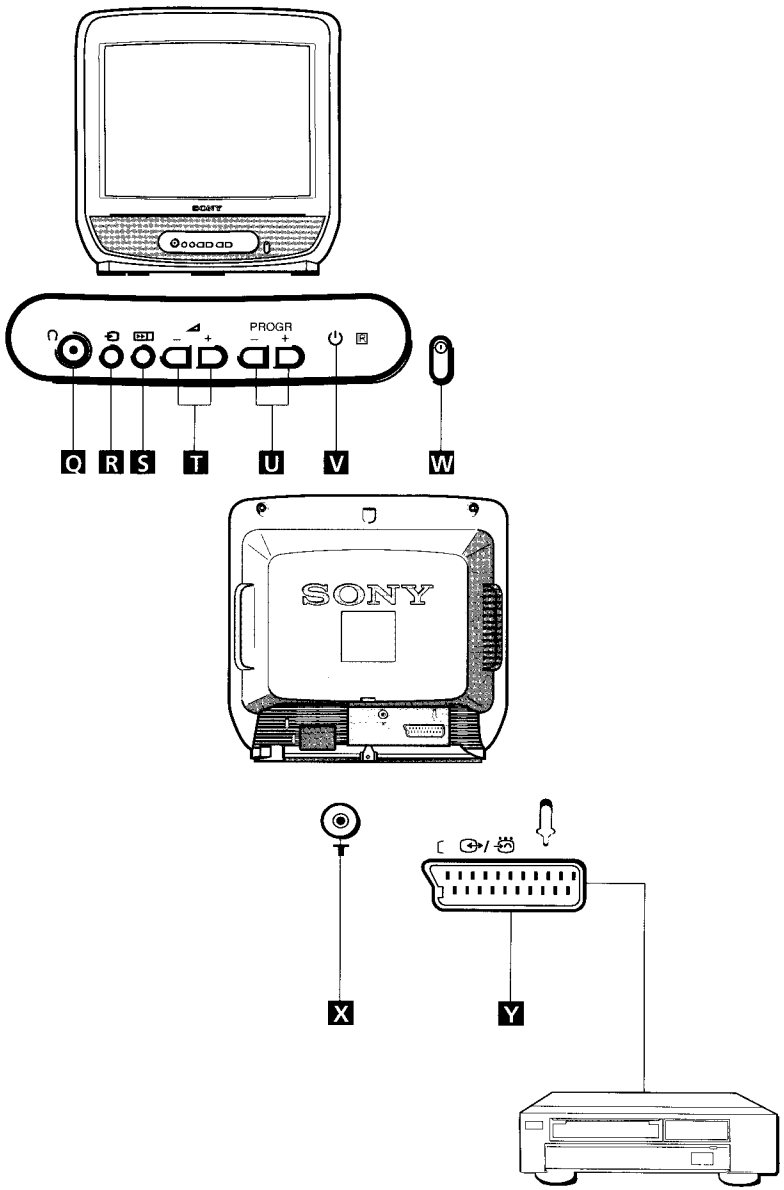
Plug in the headphones to the ∩ Q socket on the front of the TV set, then the sound from the speaker is muted.

Troubleshooting

Here are some simple solutions to the problems which affect the picture and sound.

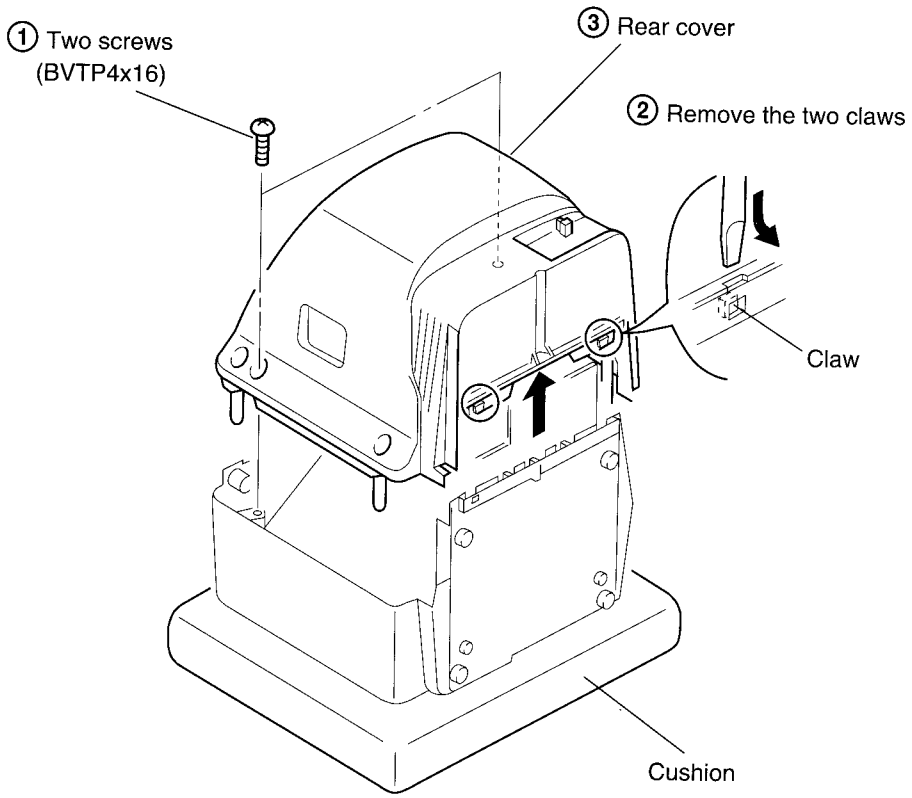
Problem	Solution
No picture, screen is dark, no sound	• Plug the TV in. • Press ⏻ W on the TV. • Press ▢ C or the programme number D on the remote commander if ⏻ indicator V is on. • Check the aerial connection. • Check that the video source is on. • Turn the TV off for 3 or 4 seconds and then turn it on again using ⏻ W.
Poor or no picture (screen is dark, sound is good)	• Press MENU N and adjust brightness picture and colour levels.
Good picture, no sound	• Adjust the volume ◿ +/– J T . • Disconnect any headphones. • Press 🔇 A if 🔇 is displayed on the screen.
No colour on colour programmes	• Press MENU N and adjust colour balance. • Press MENU N and reset to factory settings.
Distorted picture when you change programmes or select teletext	• Turn off the equipment connected to the 21-pin connector Y.
Partially discoloured picture when you swivel the TV	• Turn off the TV for fifteen minutes using the power switch ⏻ W on TV set then turn on again.
Remote commander does not function	• Replace the batteries.

• If you continue to have these problems, have your TV serviced by qualified personnel.
• NEVER open the casing yourself.

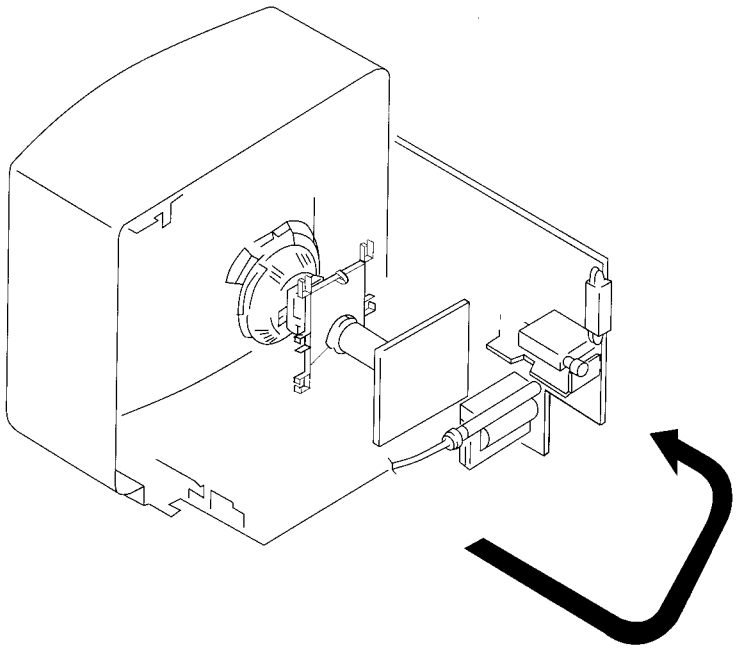

PROGR
Q
R
S
T
U
V
W
SONY
X
Y

SECTION 2
DISASSEMBLY

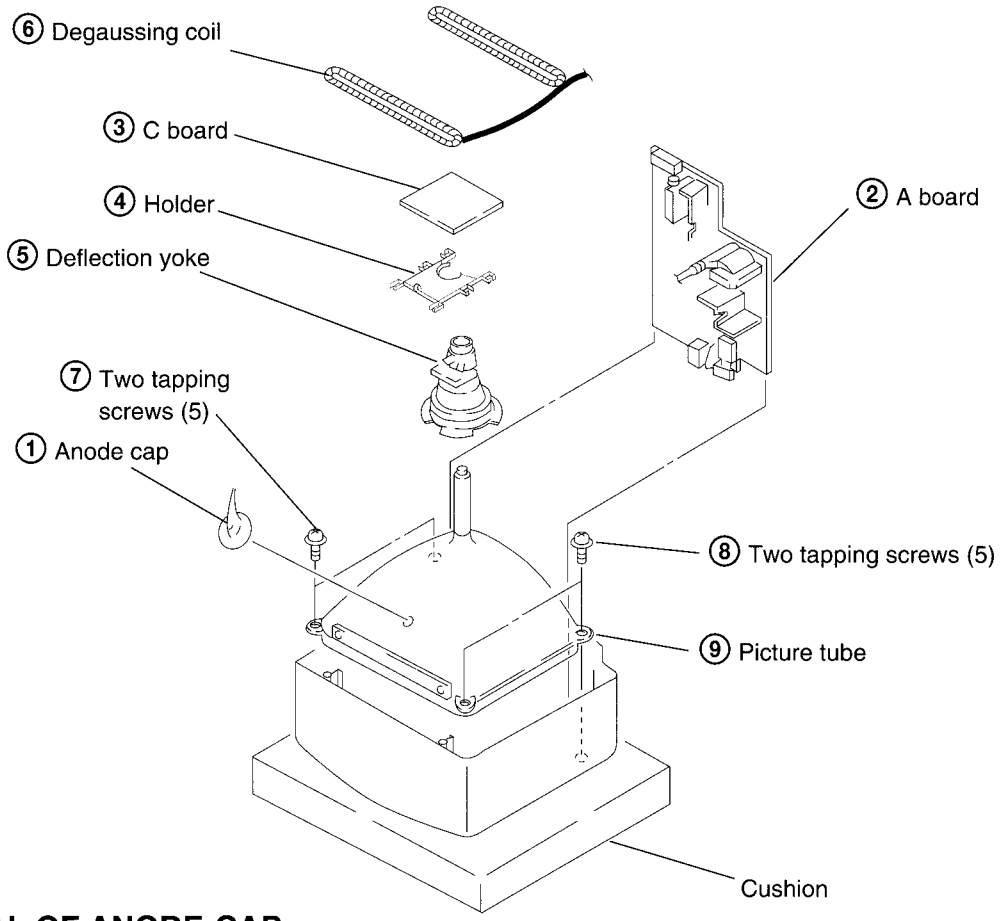
2-1. REAR COVER REMOVAL



2-2. SERVICE POSITION



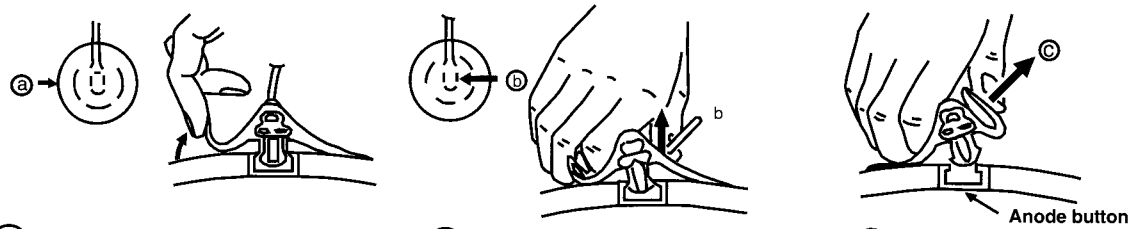
2-3. PICTURE TUBE REMOVAL



• REMOVAL OF ANODE-CAP

Note: Short circuit the anode of the picture tube and the anode cap to the metal chassis, CRT shield or carbon paint on the CRT, after removing the anode.

* **REMOVING PROCEDURES.**



① Turn up one side of the rubber cap in the direction indicated by the arrow ⓐ

② Using a thumb pull up the rubber cap firmly in the direction indicated by the arrow ⓑ

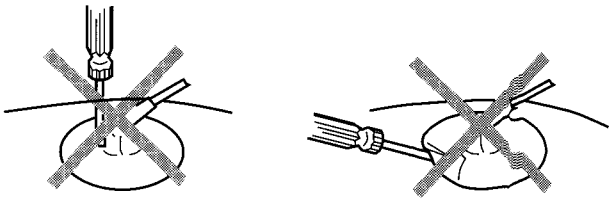
③ When one side of the rubber cap is separated from the anode button, the anode-cap can be removed by turning up the rubber cap and pulling it up in the direction of the arrow ⓒ

• HOW TO HANDLE AN ANODE-CAP

① Don't damage the surface of anode-cap with sharp shaped material !

② Don't press the rubber hardly not to hurt inside of anode-caps !
A metal fitting called as shatter-hook terminal is built into the rubber.

③ Don't turn the foot of rubber over hardly !
The shatter-hook terminal will stick out or damage the rubber.



SECTION 3
SET-UP ADJUSTMENTS

- The following adjustments should be made when a complete realignment is required or a new picture tube is installed.
- These adjustments should be performed with the rated power supply voltage, unless otherwise noted.

The Contrast and Brightness controls should be set as follows unless otherwise noted:

◑ CONTRAST control 80%
(or Normal by commander)
☼ BRIGHTNESS control 50%

Perform the adjustments in the following order:
1. Beam Landing
2. Convergence
3. Screen (G2), Drive, White Balance, Sub Color and Sub Brightness.
4. Focus

Note: Test Equipment Required.
1. Color bar/Pattern Generator
2. Degausser
3. DC Power Supply
4. Digital multimeter
5. Oscilloscope

Preparation:
- In order to reduce the influence of external magnetic forces on the picture tube, face the TV set in an easterly or westerly direction.
- Turn the power switch for the unit ON and erase the magnetic force using a degausser.

3-1. BEAM LANDING

Demagnetize with a degausser.
1. Input an all white raster signal from the pattern generator.
   CONTRAST } normal
   BRIGHTNESS }
2. Switch the raster signal of the pattern generator to Red.
3. Move the deflection yoke backward, and adjust with the purity control so that Red is at the center and the Blue and Green are evenly spaced at the sides. see (Fig. 3-1 - 3-3)
4. Move the deflection yoke forward, and adjust so that the entire screen becomes Red. (Fig. 3-1)
5. Switch the raster signal to Blue and then Green to confirm the condition.
6. When the position of the deflection yoke has been determined, tighten it with the deflection yoke mounting screw.
7. When the landing at the corners is not correct, adjust by using disk magnets. (Fig. 3-4)

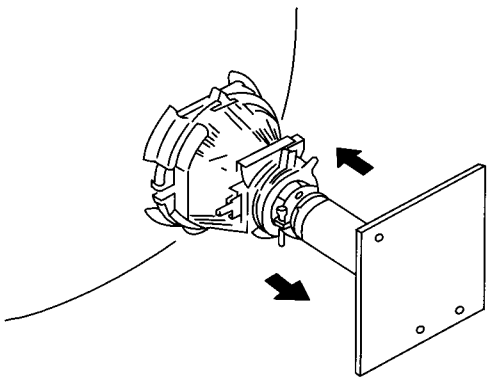


Fig. 3-1

Fig. 3-2

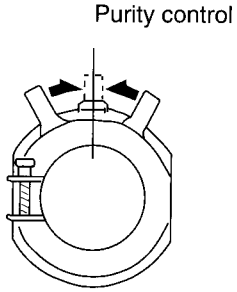


Fig. 3-3

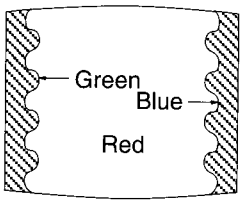
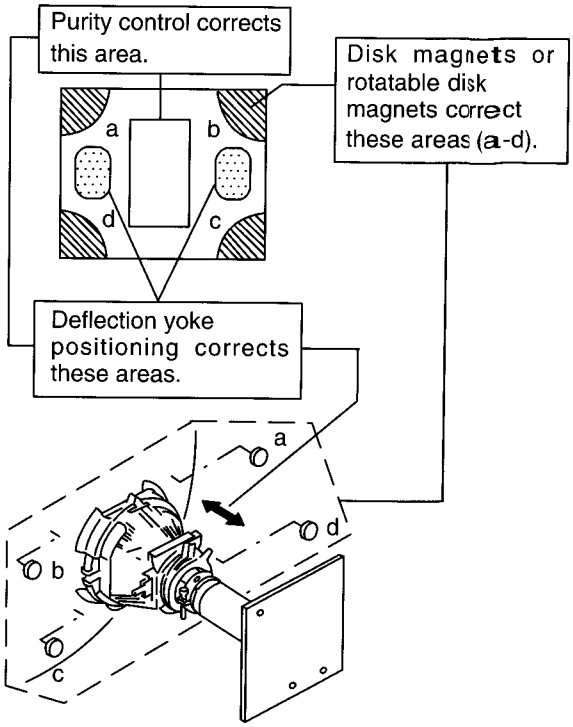


Fig. 3-4

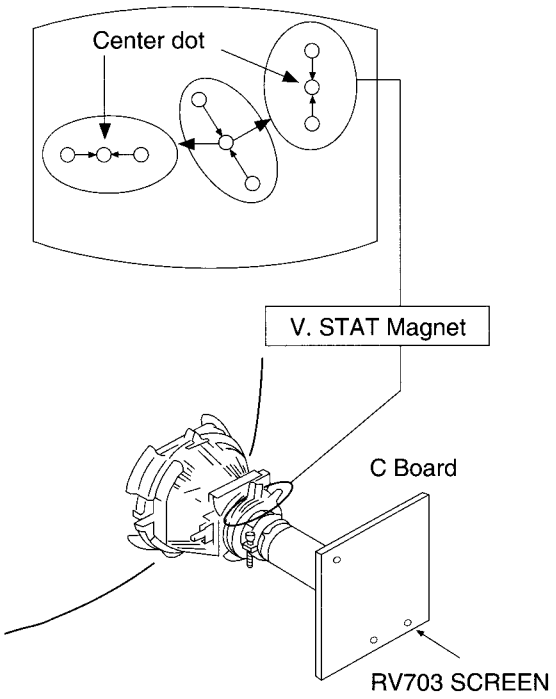


3-2. CONVERGENCE

Preparation:

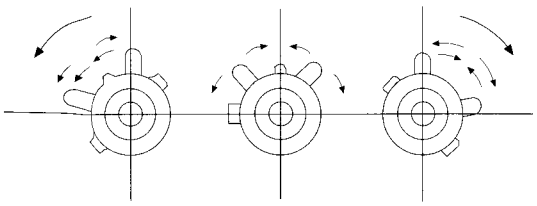
- Before starting, perform FOCUS, H.SIZE, and V.SIZE adjustments.
- Set the BRIGHTNESS control to minimum.
- Input a dot pattern from the pattern generator.

(1) Horizontal and Vertical Static Convergence

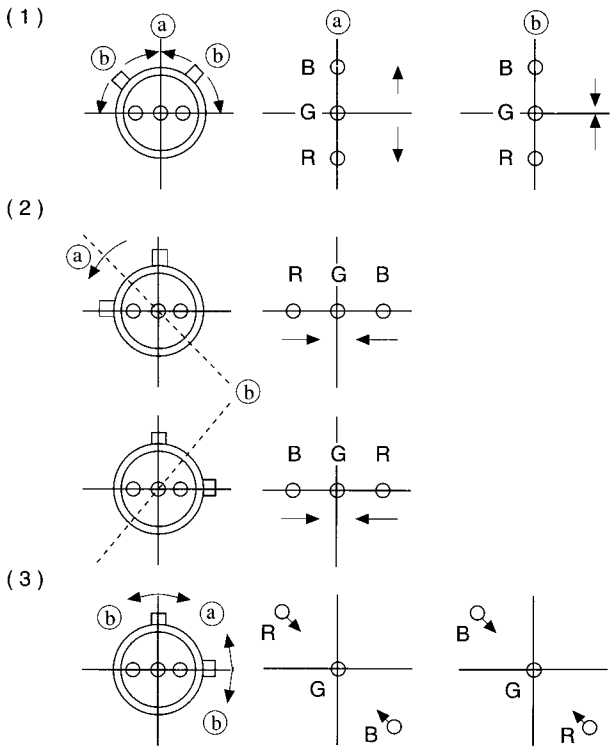


1. Adjust the V.STAT magnet to converge the Red, Green and Blue dots at the center of the screen. (Vertical and Horizontal movement)

- Tilt the V.STAT magnet and adjust the static convergence by opening or closing the V.STAT magnet.



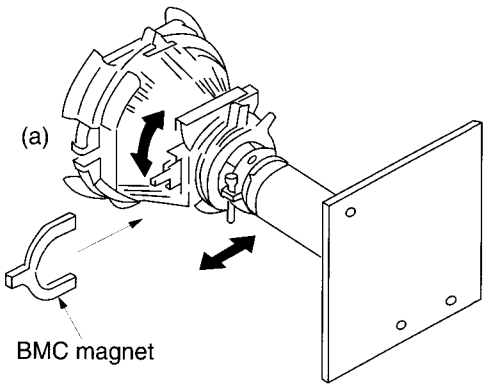
2. When the V.STAT magnet is moved in the direction of the (a) and (b) arrows, the Red, Green and Blue dots move as shown below.



If the Red and Blue dots do not converge with the Green dots, perform the following steps.

1. Move the BMC magnet (a) to correct for insufficient H.static convergence.
2. Rotate the BMC magnet (b) to correct for insufficient V.static convergence.

In either case, repeat the Beam Landing Adjustment.

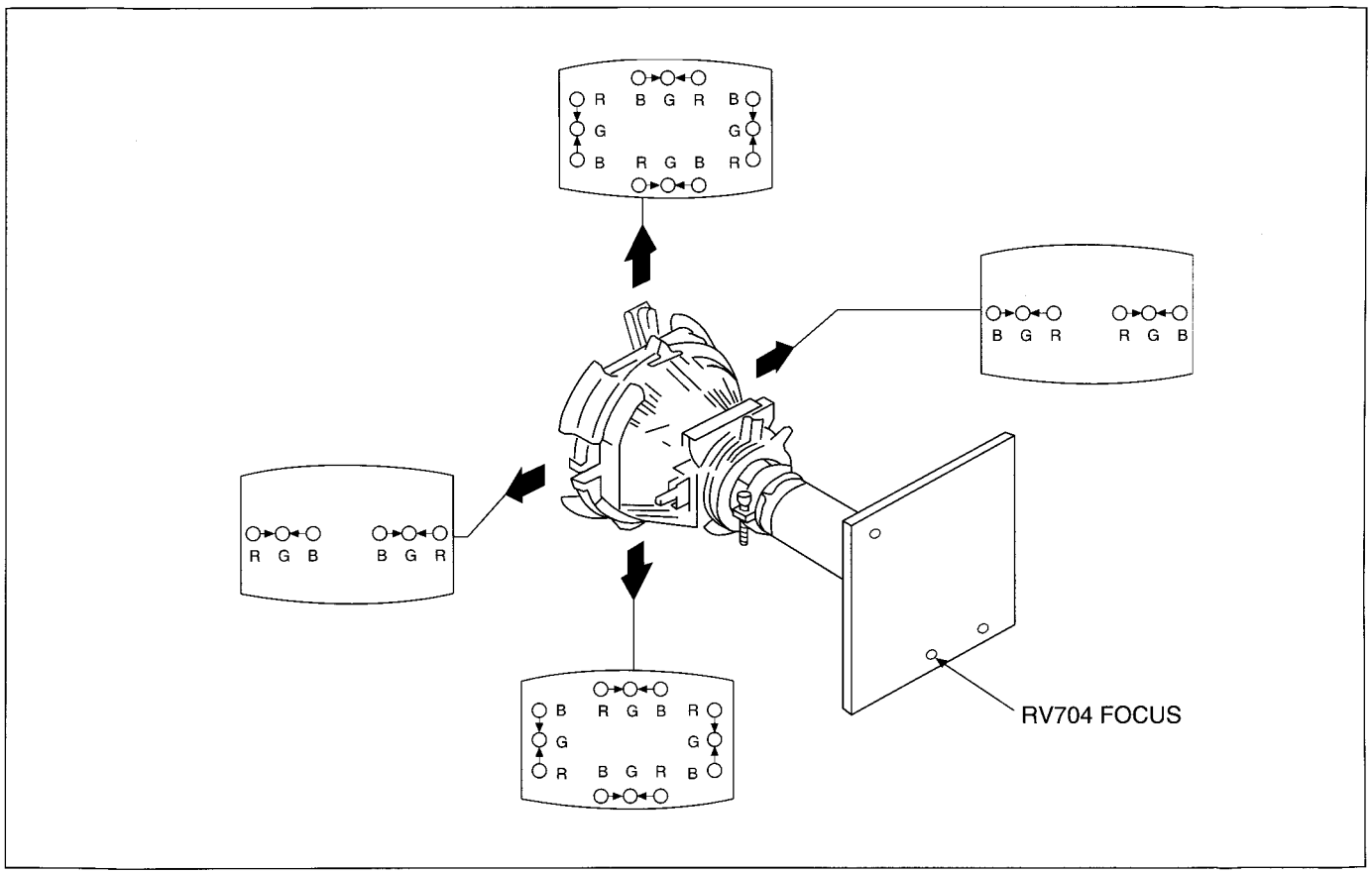


(2) Dynamic Convergence Adjustment

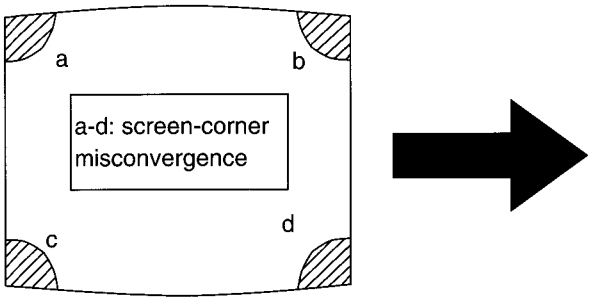
Preparation:

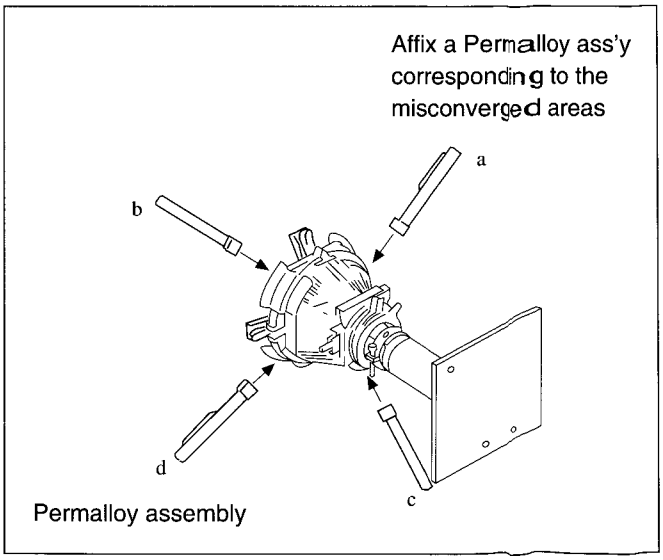
- Before starting to perform the Horizontal and Vertical static convergence adjustment.

1. Slightly loosen the deflection yoke screw.
2. Remove the deflection yoke spacers.
3. Move the deflection yoke for best convergence as shown below.
4. Tighten the deflection yoke screw.
5. Install the deflection yoke spacers.

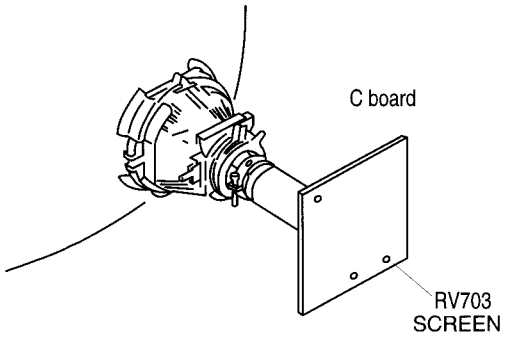


(3) Screen-corner Convergence.





3-3. SCREEN (G2), DRIVE, WHITE BALANCE, SUB COLOR and SUB BRIGHTNESS.

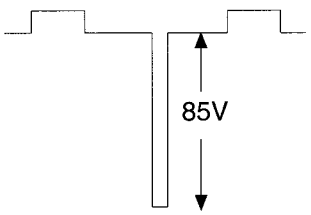


Screen (G2) setting

1. Input a 0 IRE (Black Level) signal from the pattern generator.
2. Enter into the Service Mode "Test""Test" and 38.
3. Adjust RV703 until the Down arrow is displayed.
4. Adjust RV703 until the Down arrow just disappears.
5. Press the TV Button on the Remote Commander to store the data.

Drive Level

1. Input a Video signal containing a small area of 100% white on a black background.
2. Connect an oscilloscope to Pin (7) of J701 (R OUT) on the C Board.
3. Set the Picture to maximum using "Test""Test" and 01.
4. Enter into the Service mode (Adjust Menu).
5. Using the Blue and Green buttons select "RED HWB".
6. Using the Red and Yellow buttons on the Remote Commander adjust until the oscilloscope waveform has an amplitude of 85V.

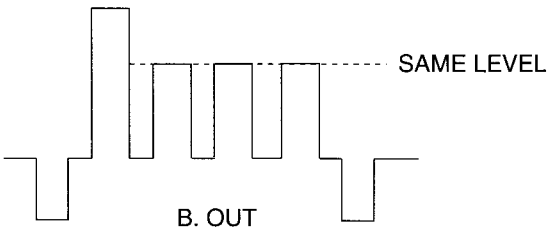


White Balance Adjustment

1. Input an all white pattern from the pattern generator.
2. Adjust the Color and Brightness controls to the standard level.
3. Enter into the Service Mode.
4. Adjust the Green HWB and Blue HWB so that the White Balance becomes optimum.

Sub Color Adjustment

1. Input a PAL color bar pattern from the pattern generator.
2. Connect an oscilloscope to Pin (5) of J701 (B OUT) on the C Board.
3. Enter into the Service Mode "Test""Test" and 22.
4. Using the Red and Yellow buttons on the Remote Commander adjust until the oscilloscope waveform becomes as follows :



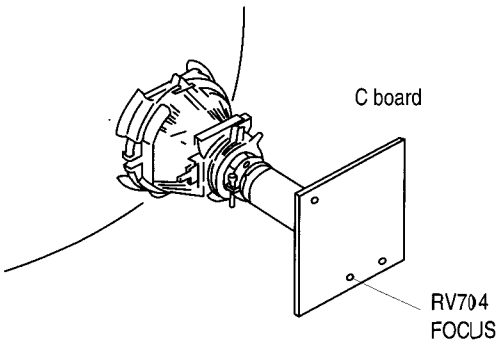
Note : If the TV is able to receive PAL and SECAM transmissions, repeat the above procedure using a Secam color bar signal.

Sub Brightness Adjustment

1. Input a Philips pattern from the pattern generator.
2. Enter into the Service Mode "Test""Test" and 23.
3. Using the Red and Yellow buttons on the Remote Commander adjust until the 0 IRE of the grey scale and the cut off are only slightly visible on the screen.

3-4. FOCUS

Adjust the FOCUS control RV704 so that the whole screen is in best focus.



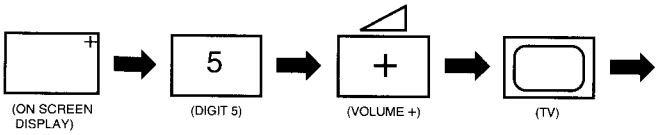
SECTION 4
CIRCUIT ADJUSTMENTS

4-1. ELECTRICAL ADJUSTMENTS

Service adjustment to this model can be performed with the supplied Remote Control Commander RM-836.

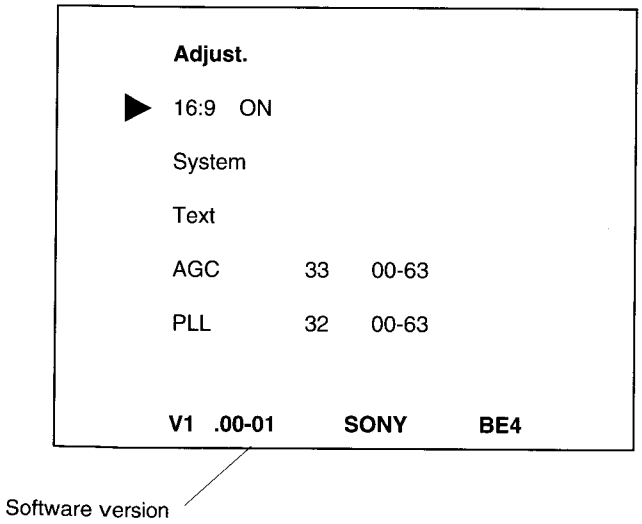
HOW TO ENTER INTO SERVICE MODE

1. Turn on the main power of the set and enter into stand-by mode.
2. Press the following sequence of buttons on the Remote Control Commander.



"TT-- " will appear in the top right corner of the screen Other status information will also be displayed.

3. Press the MENU button on the Remote Commander to obtain the menu on the screen.



4. Press the Blue (Next) or Green (previous) buttons to select the adjustment item from the table.
5. Press the Yellow (+) or Red (-) buttons to change the data as required.
6. Turn off the power to quit the service mode when adjustments are completed.

Range of adjustments available from the on screen menu system.

Adjustment	Set	Range
16:9 Off	Select	ON/OFF
System	Select	BG-L, BG-DK UK, Eire, BG
Text	Select	EAST/WEST
AGC	Adj.	00 - 63
PLL	Adj.	00 - 63
B&W Delay	Adj.	00 - 63
Ver Size	Adj.	00 - 63
Ver, Breath	00	00 - 63
Par, Ampl	00	00 - 63
Par, Tilt	32	00 - 63
V, Linear	Adj.	00 - 63
Corn, corr	00	00 - 63
V, Cen or EW	Adj.	00 - 63
V, Position	42	00 - 63
H, Centre	Adj.	00 - 63
Blue HWB	Adj.	00 - 63
Green HWB	Adj.	00 - 63
Red HWB	Adj.	00 - 63

4-2. TEST MODE 2:

TT -- Mode is available by pressing the Test button twice, O.S.D 'TT --' appears. The functions described below are available by pressing two digits. To release the 'TT --' mode, press 0 twice, press 'TEST' , press 'TV' or switch the TV into Stand-by mode.

00	Switch 'TT--' Mode off.
01	Set picture level to maximum.
02	Set picture level to minimum.
03	Set volume to 35%.
04	Set volume to 50%.
05	Set volume to 65%.
06	Set volume to 80%.
07	Ageing condition (picture max., brightness max.).
08	Shipping condition (Analog values are RESET to factory setting, Prog 1 is selected, TT--mode switched off, Vol = 35%).
09	Dummy.
10	No function.
11	Dummy
12	Text Picture Level Offset (Enable/Disable)
13	Select Odd / Even field for Non-interlaced teletext.
14	Select Interlaced / Non-interlaced teletext display.
15	Read factory setting from ROM to NVM - Reads Volume, Brightness, Picture, Hue, Sharpness and Colour values from ROM to the actual used values (Last Power Memory).
16	No function
17	Enable / Disable Sharpness Operation.
18	Enable / Disable Teletext Operation.
19	Enable / Disable NTSC Operation.
20	No function.
21	Sub Picture.
22	Sub Colour (Pal / Secam Different Stores)
23	Sub Brightness.
24	Destination System BG/L.

25	Destination Systems BG/L.
26	Destination Systems I.
27	Destination System I/I'.
28	Destination BG only.
29	Dummy.
30	No function.
31-32	Dummy.
33	Auto AGC Adjust.
34	Auto PLL Adjust.
35-37	Dummy.
38	Enter G2 adjustment mode.
39	Dummy.
40	No function.
41	Re-initialise NVM.
42	Dummy.
43	Re-initialise Geometry settings.
44-47	Dummy
48	Set NVM testbyte to 44h in NVM.
49	Erase NVM testbyte
50	No function.

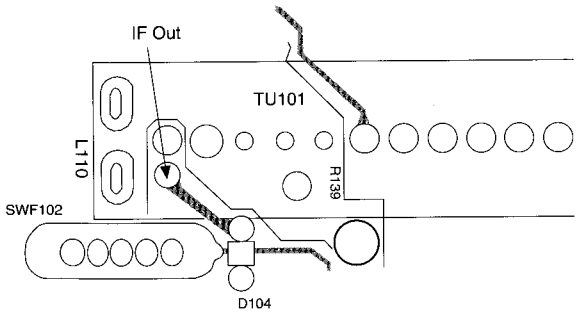
Note : For Test Modes 41 - 50, it is necessary to ensure that the TV is set to Prog 59.

IF ADJUSTMENT (AUTOMATIC)

1. Input a 38.9 MHz 100dBμ CW signal at the IF Out injection point.
2. Enter into service mode and press 34.
3. Connect a digital voltmeter to IC101 pin (23).
4. Check AFT 2.5V ±0.3V dc.
5. Press '00' on the Remote Commander.

SYSTEM L ADJUSTMENT (French Models)

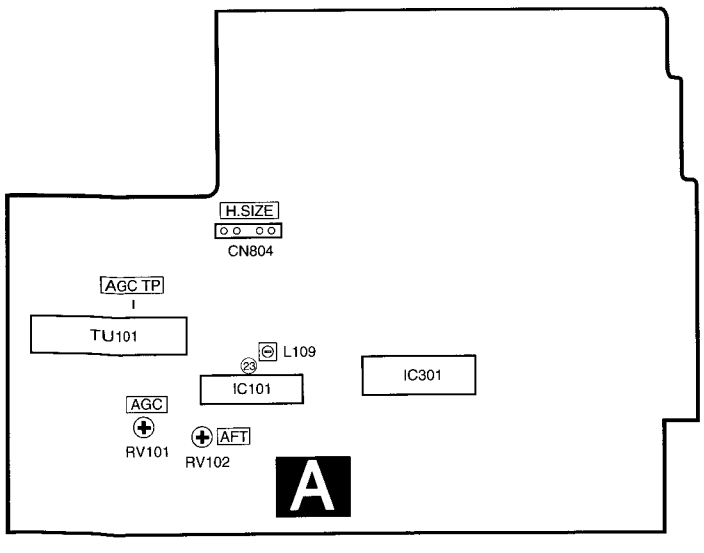
1. Input a 33.9MHz 100dBμ CW signal at the IF Out injection point.
2. From the On Screen Menu set System to L band 1.
3. Connect a digital voltmeter to IC101 pin (23).
4. Adjust RV102 AFT for 2.5V ±0.3V dc.



- A Board Print Side -

AGC ADJUSTMENT

1. Receive an off-air signal.
2. Enter into the Service adjust menu and select AGC.
3. Adjust the data using the Red and Yellow buttons on the Remote Commander so that there is no snow or cross - modulation visible on the screen.
4. Change the receiving off-air channel, and confirm the above status.



- A Board Component Side -

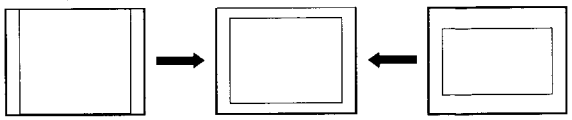
DEFLECTION SYSTEM ADJUSTMENT

1. Enter into the service mode.
2. Using the Blue or Green buttons select the Adjust item.
3. Press the Yellow button to enter the adjustment submenu.
4. Select and adjust each item in order to obtain the optimum image.

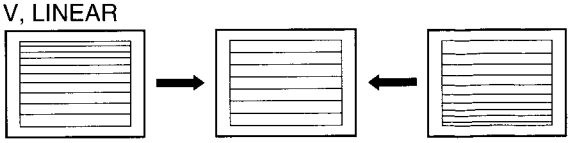
See Note on page 20

Adjustment	Set	Range
VERT, AMPL	Adj.	00 - 63
VER, BREATH	00	00 - 63
PAR, AMPL	00	00 - 63
PAR, TILT	32	00 - 63
V, LINEAR	Adj.	00 - 63
CORN, CORR	Adj.	00 - 63
V, CENTRE	Adj.	00 - 63
V, POSITION	42	00 - 63
H, CENTRE	Adj.	00 - 63

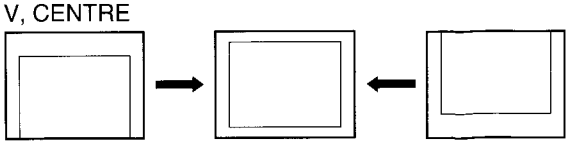
VERT, AMPL



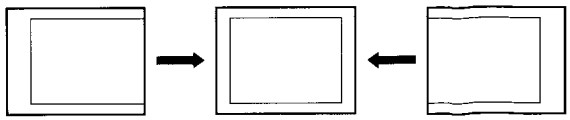
V, LINEAR



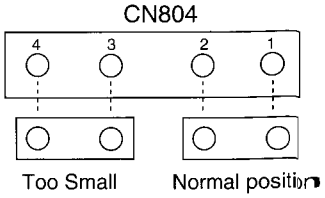
V, CENTRE



H, CENTRE



H, SIZE



Fit the link as required to obtain the correct horizontal picture size. Remove the link if the H, SIZE is to large.

4-3. BE-4 SELF DIAGNOSTIC SOFTWARE

The identification of errors within the BE-4 chassis is triggered in 1 of 2 ways :- 1: Bus busy or 2: Device failure to respond to I^2C. In the event of one of these situations arising the software will first try to release the Bus if busy (Failure to do so will report with a continuous flashing LED) and then communicate with each relevant device in turn to establish if a device is faulty. If a device is found to be faulty the relevant device number will be displayed through the LED by a Series of flashes which must be counted (See Table 1)., on fatal errors are reported with this method.

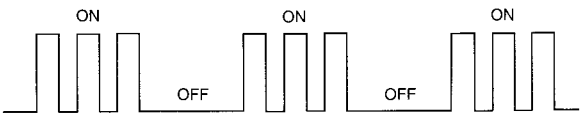
If a fatal error is found, the set will simply stay in whichever state it was when the error occurred, but if a non fatal error occurs the set will try to continue to operate.

Table 1

No of Flashes	Meaning
2	IC301 not acknowledging I^2C transmission, NVM OK.
3	IC301 FAULT (Not OK) - flags
4	IC301 - No H Flyback
5	IC301 - Stack Overflow.
6	Overvoltage / Overcurrent Protection (Pin 52) high.
7	IC002 not acknowledging I^2C transmission, IC301 OK.
8	IC002 and IC301 - No I^2C acknowledgment.
9	General I^2C Error (SDA or SCL being held low) (IC301, IC001, IC002, CN001)

Flash Timing Example : e.g. error number 3

Stby LED

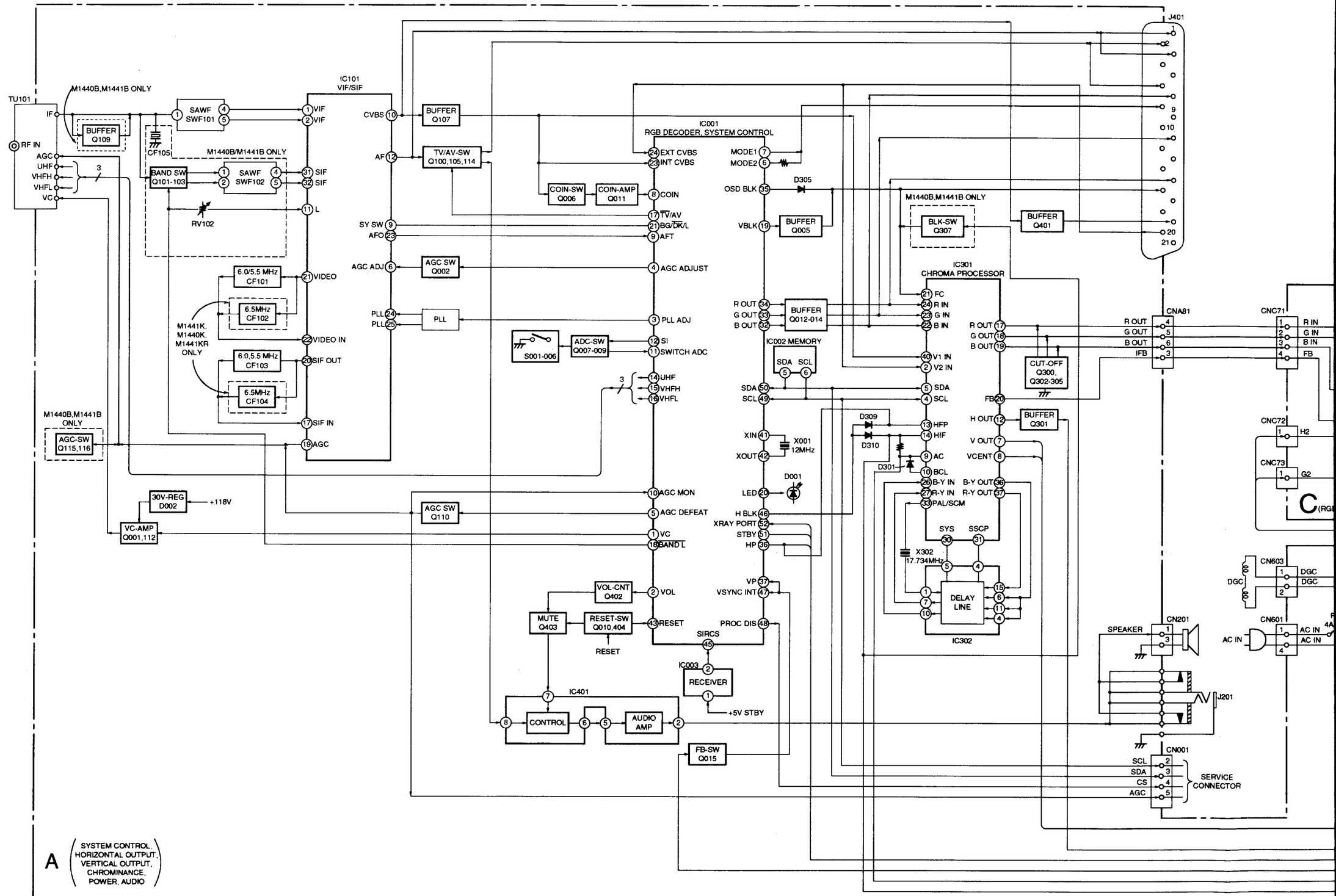


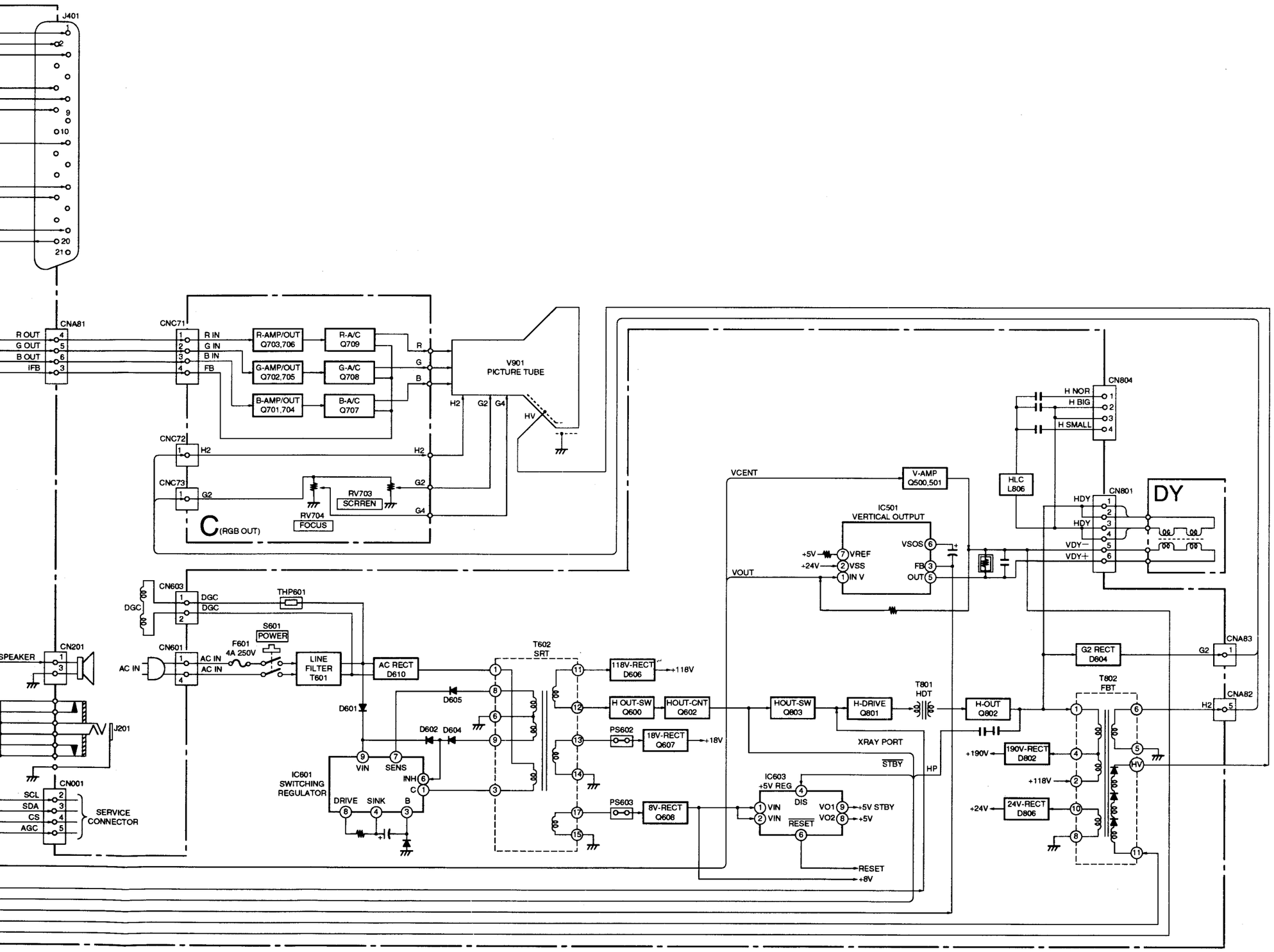
Note : Deflection System Adjustments should not be carried out whilst using an NTSC (60Hz) signal, or if the signal is unlocked.

MEMO

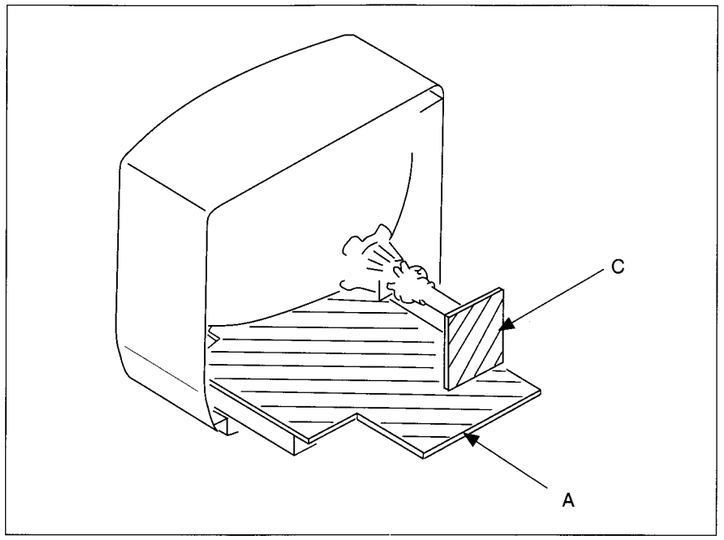
SECTION 5
DIAGRAMS

5-1. BLOCK DIAGRAM




J401
CNA81
R OUT
G OUT
B OUT
IFB
CNC71
R IN
G IN
B IN
FB
R-AMP/OUT Q703,706
G-AMP/OUT Q702,705
B-AMP/OUT Q701,704
R-A/C Q709
G-A/C Q708
B-A/C Q707
V901 PICTURE TUBE
H2
G2
G4
HV
CNC72
CNC73
RV703 SCRREN
RV704 FOCUS
C (RGB OUT)
VCENT
V-AMP Q500,501
IC501 VERTICAL OUTPUT
VOUT
VREF
VSS
IN V
VSOS
FB
OUT
HLC L806
CN804
H NOR
H BIG
H SMALL
CN801
HDY
VDY−
VDY+
DY
CN603
DGC
THP601
S601 POWER
F601 4A 250V
CN601
AC IN
LINE FILTER T601
AC RECT D610
T602 SRT
118V-RECT D606
+118V
H OUT-SW Q600
HOUT-CNT Q602
HOUT-SW Q803
H-DRIVE Q801
T801 HDT
H-OUT Q802
G2 RECT D804
CNA83
T802 FBT
CNA82
CN201
SPEAKER
J201
D601
D605
D602
D604
PS602
18V-RECT Q607
+18V
XRAY PORT
STBY
HP
IC601 SWITCHING REGULATOR
VIN
SENS
INH
DRIVE
SINK
IC603 +5V REG
DIS
RESET
VO1
VO2
+5V STBY
+5V
PS603
8V-RECT Q608
+8V
190V-RECT D802
+190V
24V-RECT D806
+24V
CN001
SCL
SDA
CS
AGC
SERVICE CONNECTOR

5-2. CIRCUIT BOARDS LOCATION



5-3. SCHEMATIC DIAGRAMS AND PRINTED WIRING BOARDS

Note :

- All capacitors are in µF unless otherwise noted. pF: µµF 50WV or less are not indicated except for electrolytic and tantalums.
- All resistors are in ohms. k = 1000 , M = 1000K
- Indication of resistance, which does not have one for rating electrical power, is as follows.

Pitch : 5 mm
Rating electrical power ¼ W

- : nonflammable resistor.
- : internal component.
- : panel designation, or adjustment for repair.
- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.
- : earth - ground.
- : earth - chassis.
- : no mounted.

Note : The components identified by shading and marked ⚠ are critical for safety. Replace only with the part number specified.

Note : Les composants identifies par une trame et une marque ⚠ sont critiques pour la securite. Ne les remplacer que par une piece portant le numero specifie.

Reference information

RESISTOR	: RN	METAL FILM
	: RC	SOLID
	: FPRD	NONFLAMMABLE CARBON
	: FUSE	NONFLAMMABLE FUSIBLE
	: RS	NONFLAMMABLE METAL OXIDE
	: RB	NONFLAMMABLE CEMENT
	: RW	NONFLAMMABLE WIREWOUND
	:	ADJUSTABLE RESISTOR
COIL	: LF-8L	MICRO INDUCTOR
CAPACITOR	: TA	TANTALUM
	: PS	STYROL
	: PP	POLYPROPYLENE
	: PT	MYLAR
	: MPS	METALIZED POLYESTER
	: MPP	METALIZED POLYPROPYLENE
	: ALB	BIPOLAR
	: ALT	HIGH TEMPERATURE
	: ALR	HIGH RIPPLE

- Readings are taken with a colour-bar signal input.
- Readings are taken with 10M digital multimeter.
- Voltages are dc with respect to ground unless otherwise noted.
- Voltage variations may be noted due to normal production tolerances.
- All voltages are in V.
- Circled numbers are waveform references.
- : B+ bus.
- : signal path. (RF)

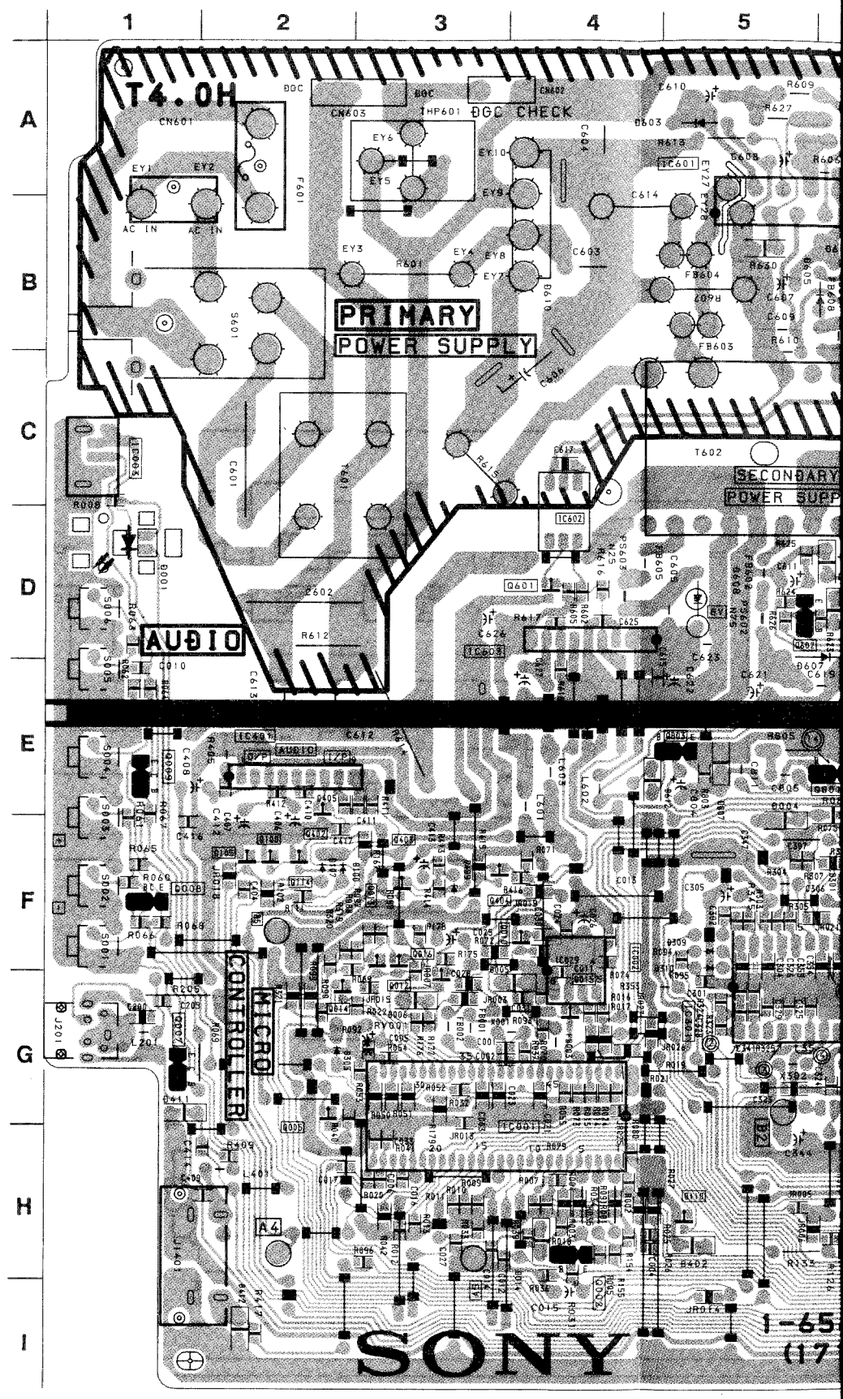
— A BOARD —

IC		TRANSISTOR				DIODE			
IC001	H-4	Q001	H-8	Q301	F-6	D001	D-1	D311	G-8
IC002	G-4	Q002	I-4	Q302	G-7	D002	F-8	D312	G-8
IC003	C-1	Q005	H-2	Q303	G-7	D004	F-5	D313	G-8
IC101	G-10	Q006	H-9	Q304	F-7	D005	G-4	D401	H-12
IC301	G-5	Q007	G-1	Q305	G-7	D014	I-4	D402	H-5
IC302	H-7	Q008	F-1	Q306	G-8	D100	F-3	D403	H-12
IC401	E-2	Q009	E-1	○ Q307	F-12	○ D102	G-11	D404	H-12
IC501	D-11	Q010	F-4	Q401	H-10	○ D104	G-11	D405	H-12
IC601	A-5	Q011	H-8	Q402	F-2	○ D105	F-8	D406	H-11
IC603	E-3	Q012	G-3	Q403	F-3	○ D106	F-8	D407	G-12
		Q013	F-3	Q404	F-4	D107	F-2	D408	I-12
		Q014	G-2	Q500	D-12	D109	F-9	D409	F-3
		Q015	G-4	Q501	E-12	D301	F-6	D410	I-11
		Q100	F-2	Q600	D-6	D302	F-7	D501	E-11
		○ Q101	G-11	Q602	D-5	D305	G-2	D600	D-6
		○ Q102	G-11	Q801	E-6	○ D307	G-11	D601	A-6
		○ Q103	G-11	Q802	D-8	○ D308	E-12	D602	B-6
		Q105	F-2	Q803	E-5	D309	F-5	D603	A-4
		Q107	H-9			D310	G-5	D604	B-6
		○ Q109	G-10					D605	B-6
		Q111	G-8					D606	D-6
		Q113	G-9					D607	E-6
		○ Q115	F-10					D608	D-5
		○ Q116	F-9					D610	B-4
		Q300	F-7					D611	D-6
								D612	E-5
								D802	C-7
								D804	D-8
								D806	A-7
								D807	E-5

○ Mark : M1440B, M1441B ONLY

A SYSTEM CONTROL, HORIZONTAL OUTPUT, VERTICAL OUTPUT, CHROMINANCE, POWER, AUDIO

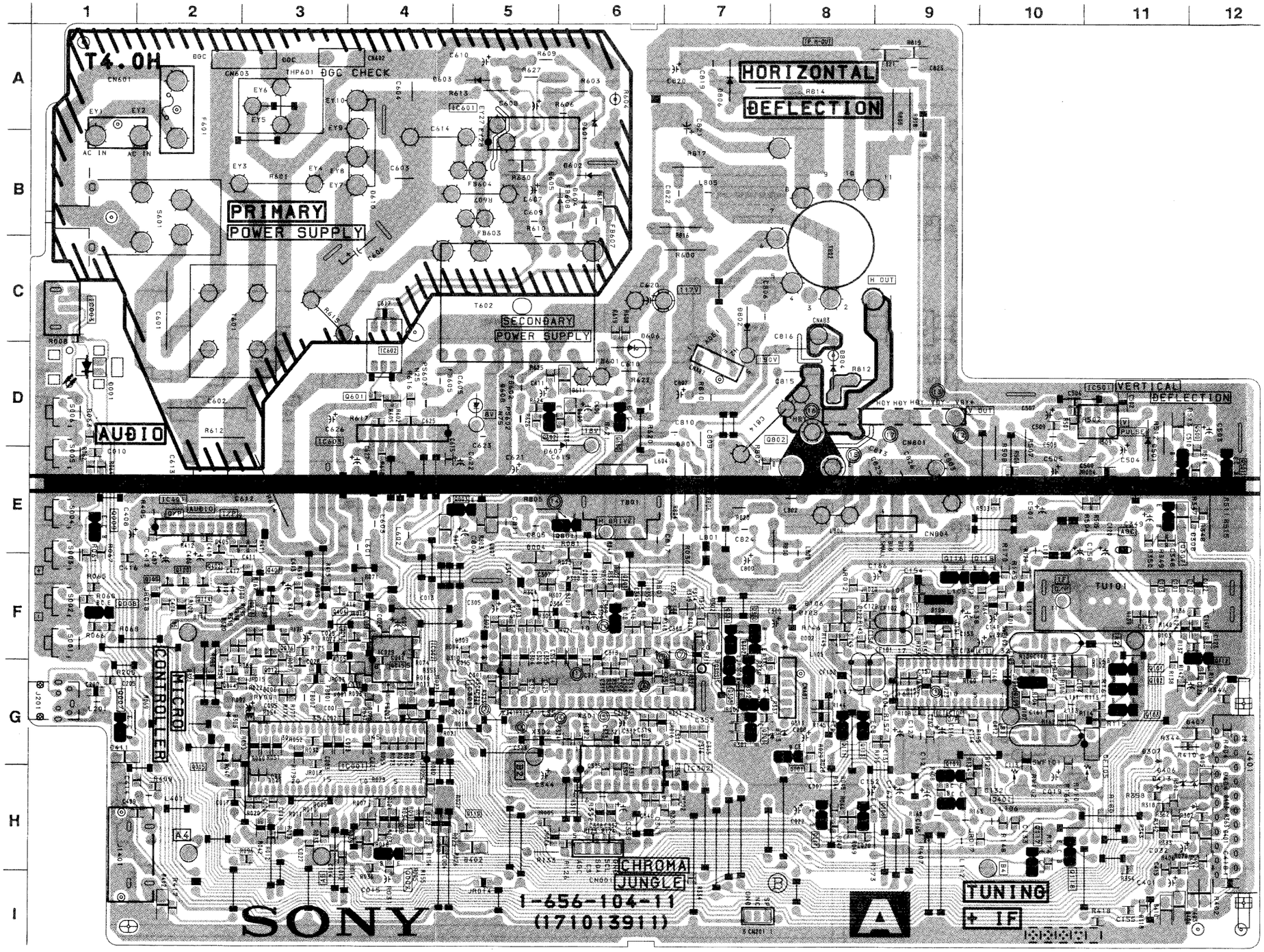
— A BOARD —



A SYSTEM CONTROL, HORIZONTAL OUTPUT, VERTICAL OUTPUT, CHROMINANCE, POWER, AUDIO

— A BOARD —

KV-M144 KV-M144



— A BOARD —

IC		TRANSISTOR				DIODE			
IC001	H-4	Q001	H-8	Q301	F-6	D001	D-1	D311	G-8
IC002	G-4	Q002	I-4	Q302	G-7	D002	F-8	D312	G-8
IC003	C-1	Q005	H-2	Q303	G-7	D004	F-5	D313	G-8
IC101	G-10	Q006	H-9	Q304	F-7	D005	G-4	D401	H-12
IC301	G-5	Q007	G-1	Q305	G-7	D014	I-4	D402	H-5
IC302	H-7	Q008	F-1	Q306	G-8	D100	F-3	D403	H-12
IC401	E-2	Q009	E-1	○ Q307	F-12	○ D102	G-11	D404	H-12
IC501	D-11	Q010	F-4	Q401	H-10	○ D104	G-11	D405	H-12
IC601	A-5	Q011	H-8	Q402	F-2	○ D105	F-8	D406	H-11
IC603	E-3	Q012	G-3	Q403	F-3	○ D106	F-8	D407	G-12
		Q013	F-3	Q404	F-4	D107	F-2	D408	I-12
		Q014	G-2	Q500	D-12	D109	F-9	D409	F-3
		Q015	G-4	Q501	E-12	D301	F-6	D410	I-11
		Q100	F-2	Q600	D-6	D302	F-7	D501	E-11
		○ Q101	G-11	Q602	D-5	D305	G-2	D600	D-6
		○ Q102	G-11	Q801	E-6	○ D307	G-11	D601	A-6
		○ Q103	G-11	Q802	D-8	○ D308	E-12	D602	B-6
		Q105	F-2	Q803	E-5	D309	F-5	D603	A-4
		Q107	H-9			D310	G-5	D604	B-6
		○ Q109	G-10					D605	B-6
		Q111	G-8					D606	D-6
		Q113	G-9					D607	E-6
		○ Q115	F-10					D608	D-5
		○ Q116	F-9					D610	B-4
		Q300	F-7					D611	D-6
								D612	E-5
								D802	C-7
								D804	D-8
								D806	A-7
								D807	E-5

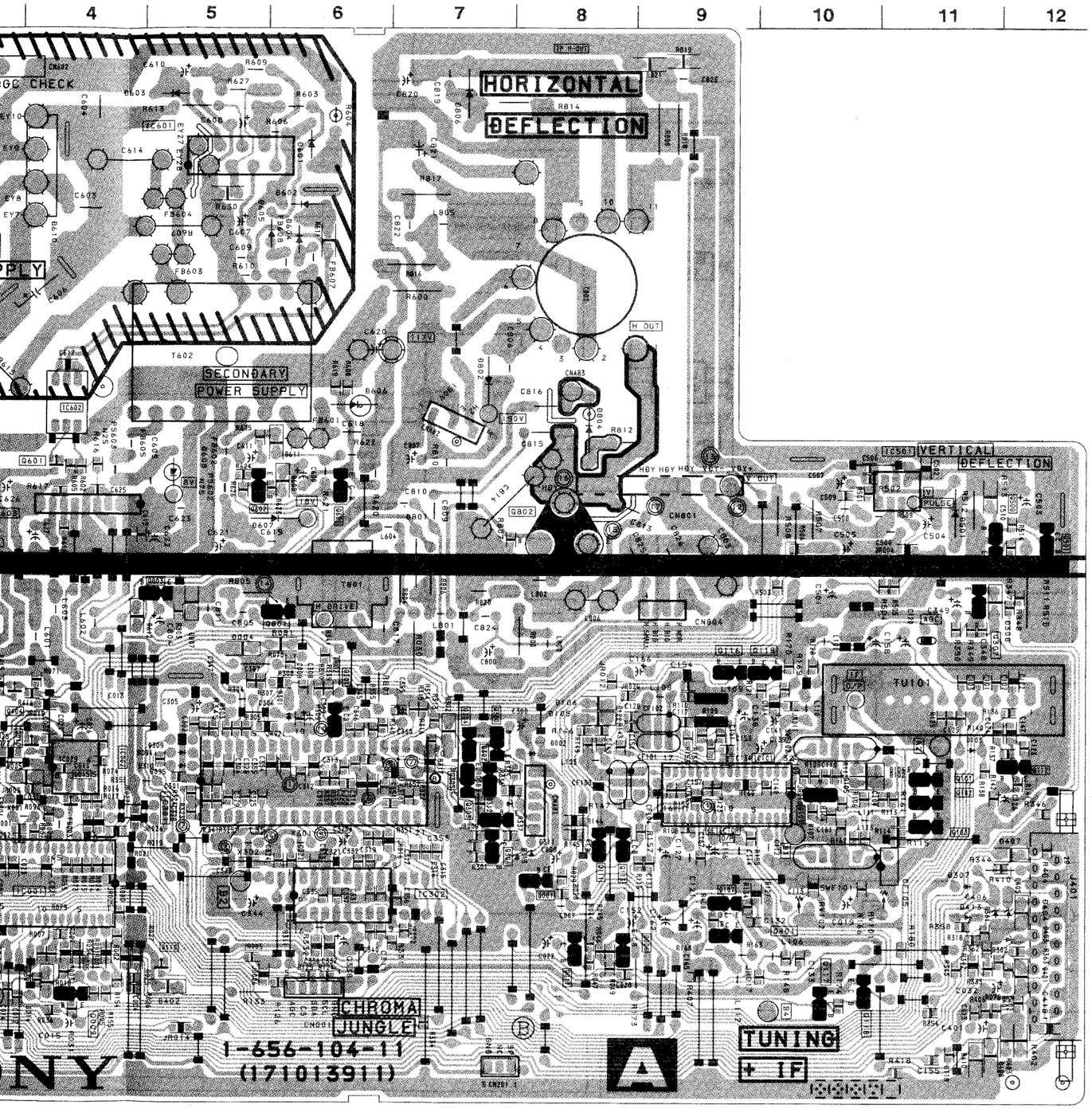
○ Mark : M1440B, M1441B ONLY

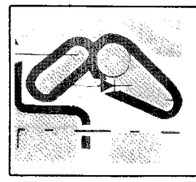
A BOARD

Ref. No. \ Model	
CN602	
C131	
CF101	
CF102	
CF103	
CF104	
D105	
D106	
IC001	
IC101	
IC301	
L108	
Q111	
Q113	
R122	
R134	
R143	
R144	
R145	
R147	
R149	
R158	
R161	
R180	
R410	
SWF101	
TU101	

Ref. No. \ Model	
CN602	
C131	
CF101	
CF102	
CF103	
CF104	
D105	
D106	
IC001	
IC101	
IC301	
L108	
Q111	
Q113	
R122	
R134	
R143	
R144	
R145	
R147	
R149	
R158	
R161	
R180	
R410	
SWF101	
TU101	

UTPUT,



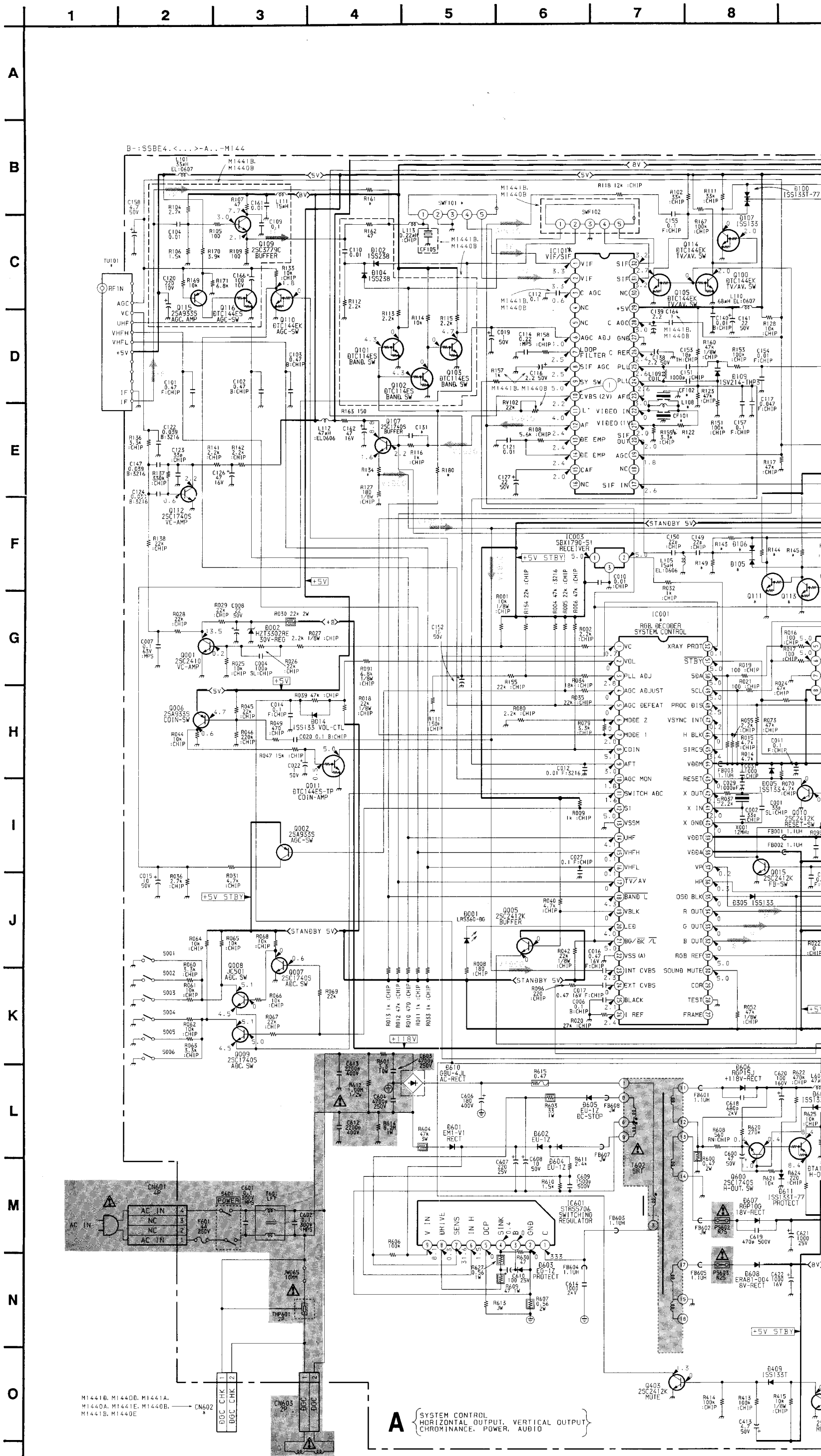


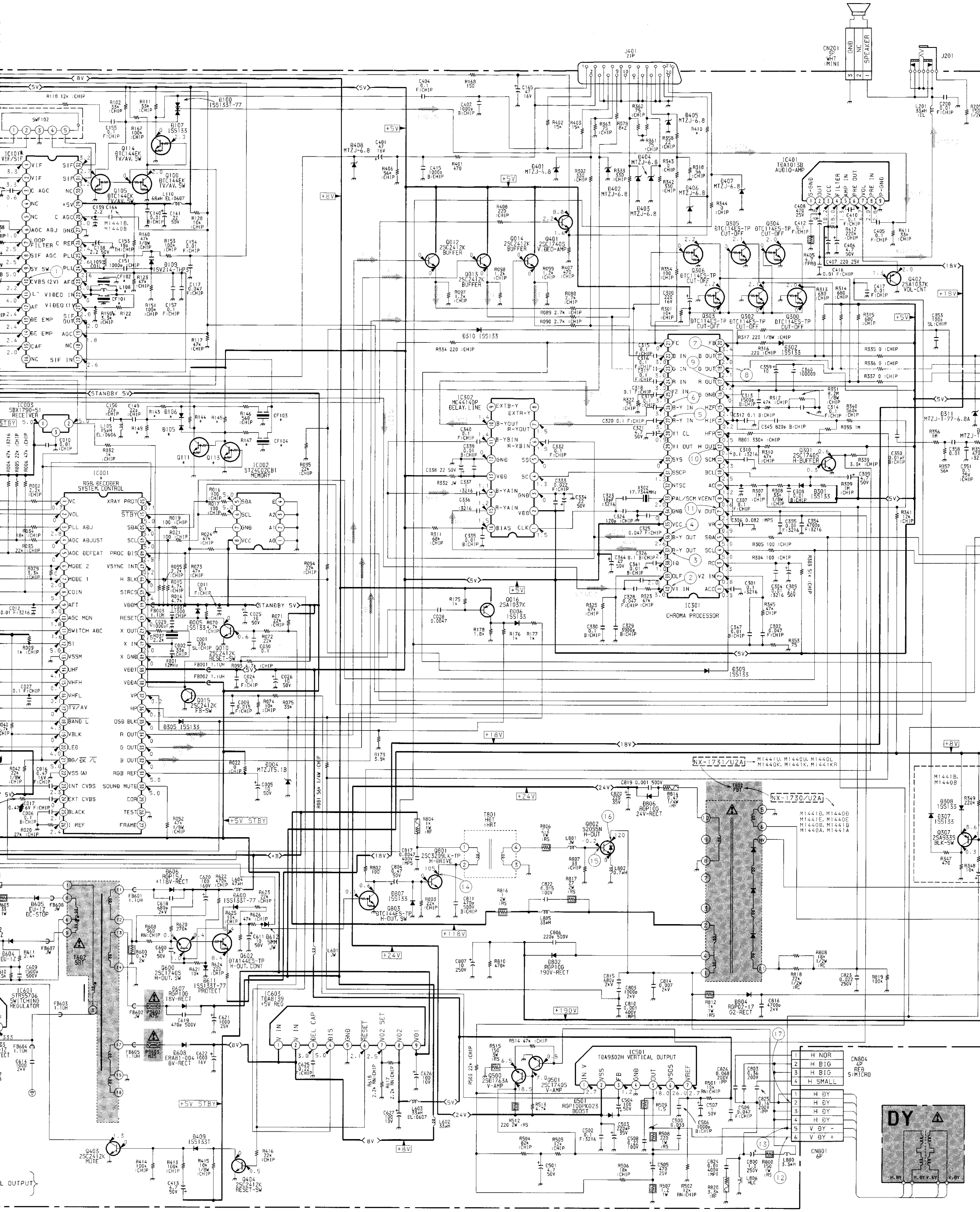
NOTE:
The circuit indicated as left contains high voltage of over 600 Vp-p. Care must be paid to prevent an electric shock in inspection or repairing.

A BOARD * MARK

Model / Ref. No.	M1440A	M1441A	M1440B	M1441B	M1440D	M1441D	M1440E
CN602	2P	2P	2P	2P	2P	2P	2P
C131	–	–	–	–	–	–	–
CF101	5.5 / 5.74 MHz	5.5 / 5.74 MHz	5.5 / 6.5 MHz	5.5 / 6.5 MHz	5.5 / 5.74 MHz	5.5 / 5.74 MHz	5.5 / 5.74 MHz
CF102	–	–	–	–	–	–	–
CF103	5.5 MHz	5.5 MHz	5.5 MHz	5.5 MHz	5.5 MHz	5.5 MHz	5.5 MHz
CF104	–	–	–	–	–	–	–
D105	–	–	–	–	–	–	–
D106	–	–	–	–	–	–	–
IC001	SAA5288ZP/007	SAA5290ZP/007	SAA5288ZP/007	SAA5290ZP/007	SAA5288ZP/007	SAA5290ZP/007	SAA5288ZP/007
IC101	TDA9806	TDA9806	TDA9806	TDA9812	TDA9806	TDA9806	TDA9806
IC301	MC44007P	MC44007P	MC44002P	MC44002P	MC44002P	MC44002P	MC44007P
L108	8.2 UH	8.2 UH	8.2 UH	8.2 UH	8.2 UH	8.2 UH	8.2 UH
Q111	–	–	–	–	–	–	–
Q113	–	–	–	–	–	–	–
R122	150	150	150	150	150	150	150
R134	180	180	180	180	180	180	180
R143	0	0	0	0	0	0	0
R144	–	–	–	–	–	–	–
R145	–	–	–	–	–	–	–
R147	–	–	–	–	–	–	–
R149	–	–	–	–	–	–	–
R158	–	–	180	180	–	–	–
R161	0	0	–	–	0	0	0
R180	–	–	1K	1K	–	–	–
R410	75	75	75	75	75	75	75
SWF101	OPWG1963	OPWG1963	OFWK3953	OFWK3953	OPWG1963	OPWG1963	OPWG1963
TU101	TELE1X001A	TELE1X001A	BT-AC401	BT-AC401	BT-AC401	BT-AC401	BT-AC401

Model / Ref. No.	M1441E	M1440K	M1441K	M1441KR	M1440L	M1440U	M1441U
CN602	2P	–	–	–	–	–	–
C131	–	0.001	0.001	0.001	–	–	–
CF101	5.5 / 5.74 MHz	5.5 / 5.74 MHz	5.5 / 5.74 MHz	5.5 / 5.74 MHz	6.0 / 6.5 MHz	6.0 / 6.5 MHz	6.0 / 6.5 MHz
CF102	–	6.5 MHz	6.5 MHz	6.5 MHz	–	–	–
CF103	5.5 MHz	5.5 MHz	5.5 MHz	5.5 MHz	6.0 MHz	6.0 MHz	6.0 MHz
CF104	–	6.5 MHz	6.5 MHz	6.5 MHz	–	–	–
D105	–	1SS133T	1SS133T	1SS133T	–	–	–
D106	–	1SS133T	1SS133T	1SS133T	–	–	–
IC001	SAA5290ZP/007	SAA5288ZP/007	SAA5290ZP/007	SAA5290ZP/006	SAA5288ZP/005	SAA5288ZP/005	SAA5290ZP/005
IC101	TDA9806	TDA9806	TDA9806	TDA9806	TDA9806	TDA9806	TDA9806
IC301	MC44007P	MC44002P	MC44002P	MC44002P	MC44007P	MC44007P	MC44007P
L108	8.2 UH	4.7 UH	4.7 UH	4.7 UH	8.2 UH	8.2 UH	8.2 UH
Q111	–	DTC144ES	DTC144ES	DTC144ES	–	–	–
Q113	–	DTC144ES	DTC144ES	DTC144ES	–	–	–
R122	150	100	100	100	150	150	150
R134	180	180	180	180	150	150	150
R143	0	–	–	–	0	0	0
R144	–	2.2 K	2.2 K	2.2 K	–	–	–
R145	–	2.2 K	2.2 K	2.2 K	–	–	–
R147	–	–	560	560	–	–	–
R149	–	2.2 K	2.2 K	2.2 K	–	–	–
R158	–	–	–	–	–	–	–
R161	0	0	0	0	0	0	0
R180	–	–	–	–	–	–	–
R410	75	75	75	75	68	68	68
SWF101	OPWG1963	OFWK2950	OFWK2950	OFWK2950	OFWJ1952M	OFWJ1952M	OFWJ1952M
TU101	BT-AC401	UV1315	UV1315	TELE1X001A	UV1315	BT-AU601	BT-AU601


A
SYSTEM CONTROL
HORIZONTAL OUTPUT, VERTICAL OUTPUT
CHROMINANCE, POWER, AUDIO
M1441B, M1440B, M1441A,
M1440A, M1441E, M1440B,
M1441B, M1440E
CN602
CN603
IC001
RGB DECODER
SYSTEM CONTROL
IC003
SBX1790-51
RECEIVER
IC101
VIF/SIF
IC601
STR5706
SWITCHING
REGULATOR
Q109
2SC3779C
BUFFER
Q005
2SC2412K
BUFFER
Q015
2SC2412K
FB-SW
Q001
2SC2410
VC-AMP
Q112
2SC1740S
VC-AMP
Q008
JC501
ABC. SW
Q007
2SC1740S
ABC. SW
Q009
2SC1740S
ABC. SW
Q011
DTC144ES-TP
COIN-AMP
Q006
2SA933S
COIN-SW
Q002
2SA933S
AGC-SW
Q115
2SA933S
AGC. AMP
Q116
DTC144ES
AGC-SW
Q110
DTC144EK
AGC-SW
Q101
DTC114ES
BAND SW
Q102
DTC114ES
BAND SW
Q103
DTC114ES
BAND SW
Q107
2SC1740S
BUFFER
Q114
DTC144EK
TV/AV, SW
Q105
DTC144EK
TV/AV, SW
Q100
DTC144EK
TV/AV, SW
Q600
2SC1740S
H-OUT, SW
Q403
2SC2412K
MUTE
D002
HZT3302RE
30V-REG
D104
1SS238
D102
1SS238
D014
1SS133 VOL-CTL
D610
GBU-4JL
AC-RECT
D606
RGP15J
+118V-RECT
D607
RGP10G
18V-RECT
D608
ERA81-004
8V-RECT
D605
EU-1Z
DC-STOP
D602
EU-1Z
D603
EG-1Z
PROTECT
D604
EU-1Z
D601
EM1-V1
RECT
D611
1SS133T-77
PROTECT
D001
LR5360-BG
D100
1SS133T-77
D107
1SS133
D109
1SV214-THP5
D409
1SS133T
D305
1SS133
D005
1SS133
D106
D105
T602
SRT
T601
LPF
F601
4A
250V
SW601
POWER
TU101
RF IN
AGC
VC
UHF
VHFH
VHFL
+5V
IF
IF
AC IN
AC IN
NC
NC
AC IN
SIF
SIF
NC
+5V
C AGC
AGC ADJ
GND
LOOP
FILTER C
REF
SIF AGC
PLL
PLL
SY SW
CVBS (2V)
AFT
VIDEO IN
VIDEO (1V)
SIF
OUT
AGC
NC
SIF IN
VIF
VIF
C AGC
NC
NC
AGC ADJ
LOOP
FILTER C
SIF AGC
SY SW
CVBS (2V)
L'
AF
DE EMP
DE EMP
CAF
NC
VC
VOL
PLL ADJ
AGC ADJUST
AGC DEFEAT
MODE 2
MODE 1
CDIN
AFT
AGC MON
SWITCH ADC
S1
VSSM
UHF
VHFH
VHFL
TV/AV
BAND L
VBLK
LED
BG/BK/L
VSS (A)
INT CVBS
EXT CVBS
BLACK
I REF
XRAY PROT
STBY
SDA
SCL
PROC DIS
VSYNC INT
H BLK
SIRCS
VDDM
RESET
X OUT
X IN
X GND
VDDT
VDDA
VP
HP
OSD BLK
R OUT
G OUT
B OUT
RGB REF
SOUND MUTE
COR
TEST
FRAME
V IN
DRIVE
SENS
IN H
OCP
SINK
B
GND
C
STANDBY 5V
+5V STBY
+118V
+B
8V
5V
POWER
AC IN
NC
NC
AC IN
CN601
2P
CN603
2P
DGC CHK
DGC CHK
DGC
DGC
SW601
S001
S002
S003
S004
S005
S006
SWF101
SWF102
CF105
CF101
CF102
X001
12MHz
L105
15μH
EL:0606
L101
33μH
EL:0607
L110
68μH EL:0607
L111
15μH
L112
47μH
EL:0606
L113
0.22μH
:CHIP
FB001 1.1UH
FB002 1.1UH
FB003 1.1UH
FB601 1.1UH
FB602 JW
FB603 1.1UH
FB604 1.1UH
FB605 1.1UH
FB607 JW
FB608 JW
FB609 JW


J401 21P
CN201 3P WHT :MINI
GND
NC
SPEAKER
J201
IC401 TDA1013B AUDIO-AMP
IC301 CHROMA PROCESSOR
IC302 MC44140P DELAY LINE
IC001 RGB DECODER SYSTEM CONTROL
IC002 ST24C02CB1 MEMORY
IC003 SBX1790-51 RECEIVER
IC501 TBA9302H VERTICAL OUTPUT
IC601 STRS5706 SWITCHING REGULATOR
IC603 TDA8139 +5V REG
Q301 2SC1740S H-BUFFER
Q302 DTC114ES-TP CUT-OFF
Q303 DTC114ES-TP CUT-OFF
Q304 DTC114ES-TP CUT-OFF
Q305 DTC114ES-TP CUT-OFF
Q306 DTC114ES-TP CUT-OFF
Q402 2SA1037K VOL-CNT
Q802 S2055N H-OUT
Q803 DTC144ES-TP H-OUT, SW
Q602 DTA144ES-TP H-OUT, CONT
Q600 2SC1740S H-OUT, SW
Q501 2SC1740S V-AMP
Q500 2SB1763A V-AMP
Q403 2SC2412K MUTE
Q404 2SC2412K RESET-SW
Q015 2SC2412K FB-SW
Q010 2SC2412K RESET-SW
Q012 2SC2412K BUFFER
Q013 2SC2412K BUFFER
Q014 2SC2412K BUFFER
Q016 2SA1037K
Q100 DTC144EK TV/AV. SW
Q105 DTC144EK TV/AV. SW
Q114 DTC144EK TV/AV. SW
Q111 Q113
Q401 2SC1740S V-AMP
Q801 2SC3209LK-TP H-DRIVE
T801 HOT :HRT
T602 SAT
T802 FBT
NX-1731/U2A → M1441U, M1440U, M1440L, M1440K, M1441K, M1441KR
NX-1730/U2A
M1441B, M1440B
M1441E, M1440E
M1441B, M1440B
M1440A, M1441A
CN804 4P RED S:MICRO
CN801 6P
DY
H NOR
H BIG
H BIG
H SMALL
H DY
H DY
H DY
H DY
V DY -
V DY +
8V
5V
STANDBY 5V
+5V STBY
+8V
+18V
+24V
+190V
+118V
SWF102
L110 68μH EL:0607
L108 CF101
L109 COIL
L105 15μH EL:0606
L601 L602 L603 L604 L801 L802 L805
X001 12MHz
X302 17.7344MHz
T301 T302 T303
FB001 FB002 FB601 FB602 FB603 FB604 FB605 FB607 FB608
PS601 PS602 PS603
D100 ISS133T-77
D107 ISS133
D109 ISV214-THP5
D310 ISS133
D408 MTZJ-6.8
D401 MTZJ-6.8
D402 MTZJ-6.8
D403 MTZJ-6.8
D404 MTZJ-6.8
D405 MTZJ-6.8
D406 MTZJ-6.8
D407 MTZJ-6.8
D005 ISS133
D006 ISS133
D309 ISS133
D302 ISS133
D305 ISS133
D307 ISS133
D311 MTZJ-T-77-6.8A
D004 MTZJT5.1B
D606 RGP15J +118V-RECT
D600 ISS133T-77
D607 RGP10G 18V-RECT
D608 ERA81-004 8V-RECT
D609 RGP10G 18V-RECT
D611 ISS133T-77 PROTECT
D409 ISS133T
D605 EU-1Z DC-STOP
D606 EU-1Z
D804 RGP02-17 G2-RECT
D806 RGP10G 24V-RECT
D807 ISS133
D802 RGP10G 190V-RECT
D501 RGP10GPKG23 BOOST
D106 D105
R118 12k :CHIP
R102 55k :CHIP
R111 33k :CHIP
R167 100k :CHIP
R155 0.1 F:CHIP
R168 150
R402 15k
R403 15k
R363 75 :CHIP
R078 8kΩ
R362 75 :CHIP
R358 22 :CHIP
R561 75 :CHIP
R401 470
R406 56k :CHIP
R415 1k :CHIP
R333 330 :CHIP
R302 330 :CHIP
R343 0 :CHIP
R318 56 :CHIP
R342 330 :CHIP
R344 0 :CHIP
R408 220 :CHIP
R098 1.2k :CHIP
R099 1.2k :CHIP
R407 470 :CHIP
R097 1.2k :CHIP
R088 2.7k :CHIP
R089 2.7k :CHIP
R090 2.7k :CHIP
R334 220 :CHIP
R160 47k 1/8W :CHIP
R153 100k :CHIP
R154 0.01 F:CHIP
R123 47k :CHIP
R151 100k :CHIP
R157 0.1 F:CHIP
R159 3.3k :CHIP
R122
R117 47k :CHIP
R143 R144 R145 R146 560 :CHIP
R147
CF103 CF104
R149
R150 22p :CHIP
R149 22p :CHIP
R052 1k :CHIP
R095 22k :CHIP
R004 47k :CHIP
R005 22k :CHIP
R006 47k :CHIP
R002 2.2k :CHIP
R034 18k :CHIP
R035 22k :CHIP
R079 3.3k :CHIP
R009 1k :CHIP
R042 22k 1/8W :CHIP
R017 100 :CHIP
R016 100 :CHIP
R019 100 :CHIP
R021 100 :CHIP
R024 47k :CHIP
R055 2.2k :CHIP
R073 47k :CHIP
R015 4.7k :CHIP
R014 4.7k
R094 22k :CHIP
R037 2.2k
R070 4.7k :CHIP
R072 22k
R071 22k :CHIP
R093 4.7k :CHIP
R074 10k :CHIP
R075 39k
R022 0 :CHIP
R052 47k 1/8W :CHIP
R020 27k :CHIP
R414 100k :CHIP
R413 100k :CHIP
R415 10k 1/8W :CHIP
R416 22k :CHIP
R625 10k :CHIP
R626 47k :CHIP
R623 22k :CHIP
R620 270k
R621 10k
R624 220 :CHIP
R622 470k :CHIP
R608 560 RN:CHIP
R600 0.47 2W
R611 2.4k
R609 1k :CHIP
R610 5.6k
R179 3.9k
R178 1.8k
R175 1k
R176 1k
R177 1k
R514 47k :CHIP
R515 150 5W :RS
R513 4.7k
R512 220 2W :RS
R503 22k :CHIP
R504 82k :CHIP
R505 12k :CHIP
R506 18k :CHIP
R507 1.2 1W
R502 12k RN:CHIP
R501 10k RN:CHIP
R509 1.5
R508 220 1W :RS
R510 47k :CHIP
R511 68k :CHIP
R512 220 2W :RS
R801 330k :CHIP
R802 100
R803 22k :CHIP
R804 1k 1W :RF
R805 33k :CHIP
R806 4.2 1W :RS
R807 33 :CHIP
R808 18k 1/2W :RC
R809 1M :CHIP
R810 470k
R811 68k :CHIP
R812 1k 1W :RS
R813 680 :CHIP
R814 0.47 1/4W :RF
R815 680 :CHIP
R816 1 2W :RS
R817 27 2W :RS
R818 22k 1/2W :RC
R819 100k
R820 3.3k :RF
R315 680 :CHIP
R316 220 :CHIP
R317 220 1/8W :CHIP
R335 0 :CHIP
R336 0 :CHIP
R337 0 :CHIP
R339 3.3k :CHIP
R340 560k :CHIP
R341 12k :CHIP
R345 47k :CHIP
R347 470
R348 10k
R349 220k
R351 8.2M 1/8W :CHIP
R352 1M
R353 75
R354 100 :CHIP
R355 1M
R356 1M
R357 56k
R358 0.01
R301 10k :CHIP
R303 51k :CHIP
R304 100 :CHIP
R305 100 :CHIP
R312 47k :CHIP
R313 680 :CHIP
R314 680 :CHIP
R322 75 :CHIP
R325 47k :CHIP
R330 0.1 B:CHIP
R347 470
C155 0.1 F:CHIP
C139 C164 2.2
C140 0.01 B:CHIP
C141 22 50V
C128 10k :CHIP
C138 2.2 50V
C153 18p :CHIP
C154 0.01 F:CHIP
C151 1000p :CHIP
C117 0.047 F:CHIP
C150 22p :CHIP
C149 22p :CHIP
C010 0.01 :CHIP
C032 1000 :CHIP
C029 10000P
C001 33p SL:CHIP
C002 33p :CHIP
C025 10 50V
C030 0.1
C024 0.1 F:CHIP
C026 10 50V
C009 0.015 F:CHIP
C027 0.1 F:CHIP
C040 0.47 16V F:CHIP
C006 0.1 B:CHIP
C016 0.47 16V F:CHIP
C017 0.47 16V F:CHIP
C011 0.1 F:CHIP
C012 0.01 F:3216
C005 10 50V
C028 0.0047
C165 47 16V
C404 0.1 F:CHIP
C402 1000p B:CHIP
C401 47 16V
C415 1000p B:CHIP
C408 470 25V
C412 0.1 F:CHIP
C410 0.1 F:CHIP
C405 0.1 F:CHIP
C411 220 25V
C406 4.7 50V
C407 220 25V
C416 0.01 F:CHIP
C417 0.01 F:CHIP
C300 220 16V
C315 0.1 F:CHIP
C316 0.1 F:CHIP
C317 0.1 F:CHIP
C318 0.1 F:CHIP
C319 0.1 F:CHIP
C320 0.1 F:CHIP
C321 4.7 50V
C340 0.1 F:CHIP
C339 0.01 B:CHIP
C338 22 50V
C337 1 :3216
C336 1 :3216
C335 0.01 B:CHIP
C332 0.1 F:CHIP
C333 0.022 F:CHIP
C334 22 50V
C323 18pF :3216
C324 120p :CHIP
C325 0.047 F:CHIP
C326 2.2
C344 47 50V
C341 0.01 B:CHIP
C328 0.047 F:CHIP
C329 3900p B:CHIP
C330 0.1 B:CHIP
C347 0.01 B:CHIP
C302 0.047 F:CHIP
C312 0.1 B:CHIP
C313 1500p B:CHIP
C314 0.1 F:CHIP
C345 8200 B:CHIP
C310 0.1 :3216
C307 0.1 F:CHIP
C306 0.082 :MPS
C355 0.01 F:3216
C354 4700p F:3216
C304 0.01 F:3216
C305 2.2 50V
C301 0.1 :3216
C309 4.7 50V
C350 0.01 B:CHIP
C351 0.2 25V :CHIP
C358 0.01
C359 10
C360 100000
C353 100 SL:CHIP
C200 0.01 F:CHIP
C201 33 EL
C202 33 EL
C503 220 35V
C504 100 50V
C505 470 25V
C507 50V
C509 0.047 F:CHIP
C510 0.001 400V :MPS
C511 0.1 F:CHIP
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C800 1.0 250V
C801 0.1 F:CHIP
C802 0.1 F:CHIP
C803 0.36 200V
C804 0.47 50V
C805 0.1 F:CHIP
C806 220p 500V
C807 10 250V
C808 0.01 B:CHIP
C809 1000p 2kV
C810 0.001 400V :MPS
C811 470p 500V B:CHIP
C812 0.1 F:CHIP
C813 0.1 F:CHIP
C814 0.007 2kV
C815 680p 2kV
C816 4700p 2kV
C817 0.0047 400V :MPS
C818 680p 2kV
C819 0.001 500V
C820 220 35V
C821 0.1 F:CHIP
C822 0.015 100V
C823 0.022 250V
C824 0.01 400V :MPT
C825 0.16 200V :PP
C826 0.068 200V :PP
C827 0.1 F:CHIP
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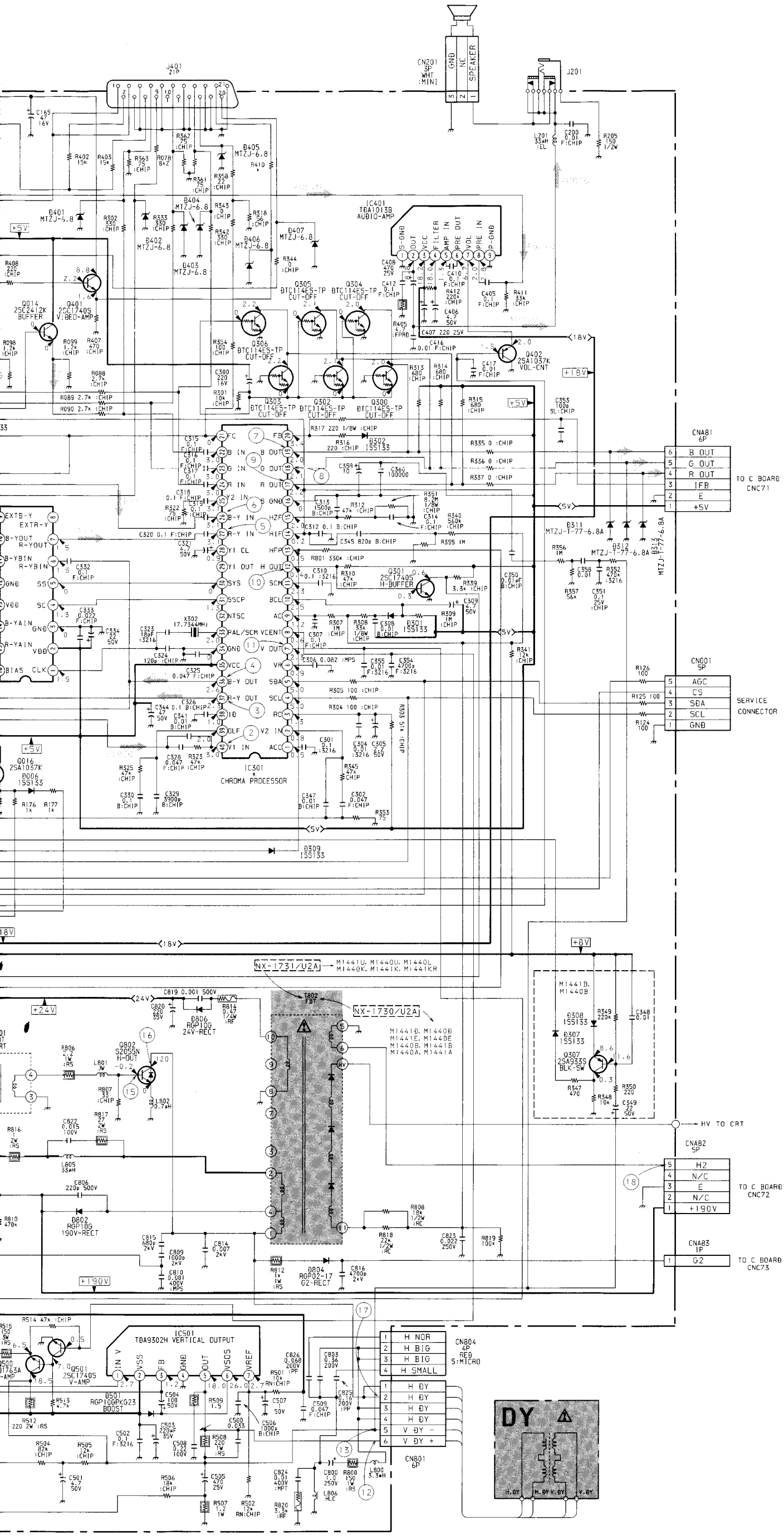
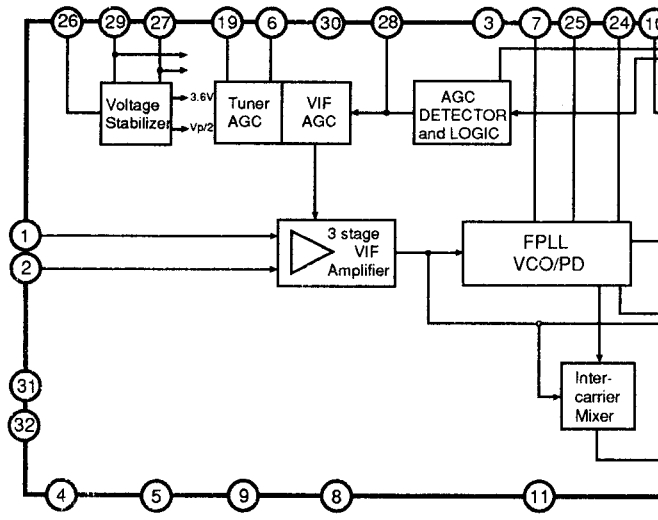


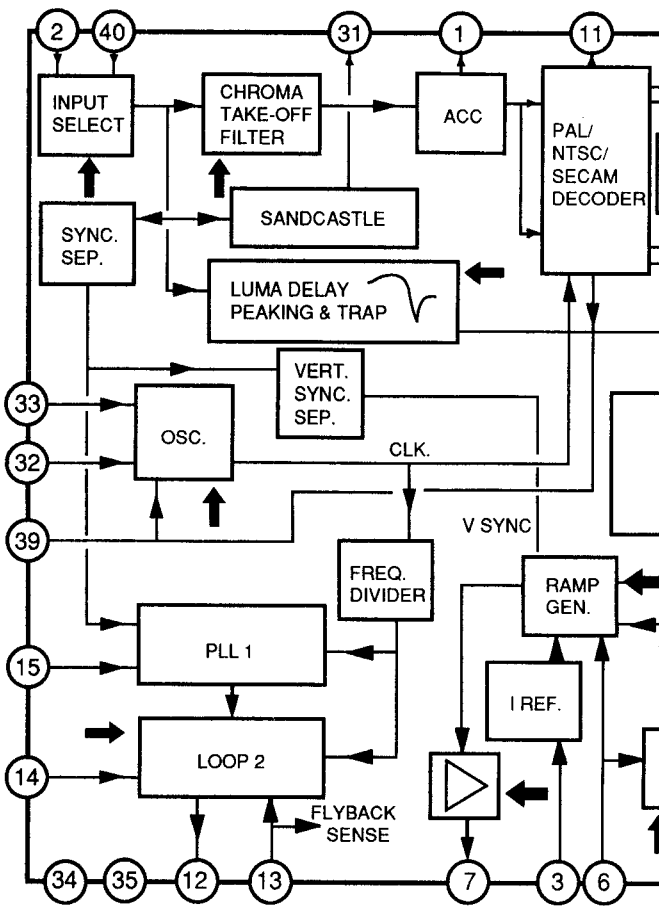
WAVEFORMS A BOARD

① 2.0 Vp-p (H)	② 1.0 Vp-p (H)	③ 1.0
④ PAL 1.0 Vp-p (H)	⑤ SECAM 0.5 Vp-p (H)	⑤ 1.1
⑥ NTSC 1.5 Vp-p (H)	⑦ 1.0 Vp-p (H)	⑧ 1.4
⑪ 1.8 Vp-p (V)	⑫ 55 Vp-p (V)	⑬ 7.3
⑯ 1.4KVp-p (H)	⑰ 51 Vp-p (H)	⑱ 24

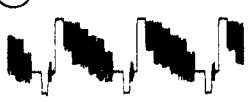
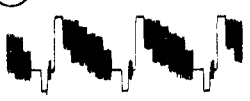
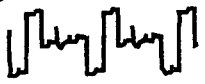
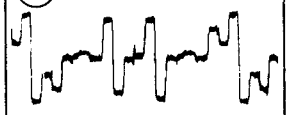
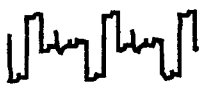
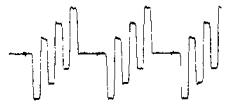
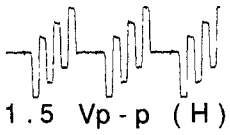
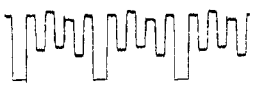
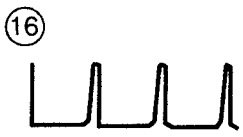
A BOARD IC101 TDA9806/TDA9812



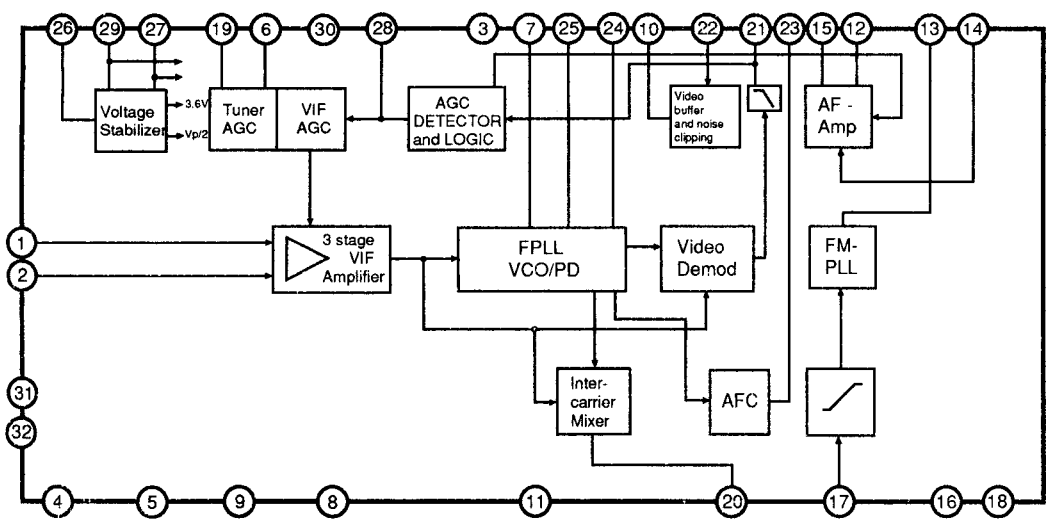
A BOARD IC301 MC4402P/MC44007P



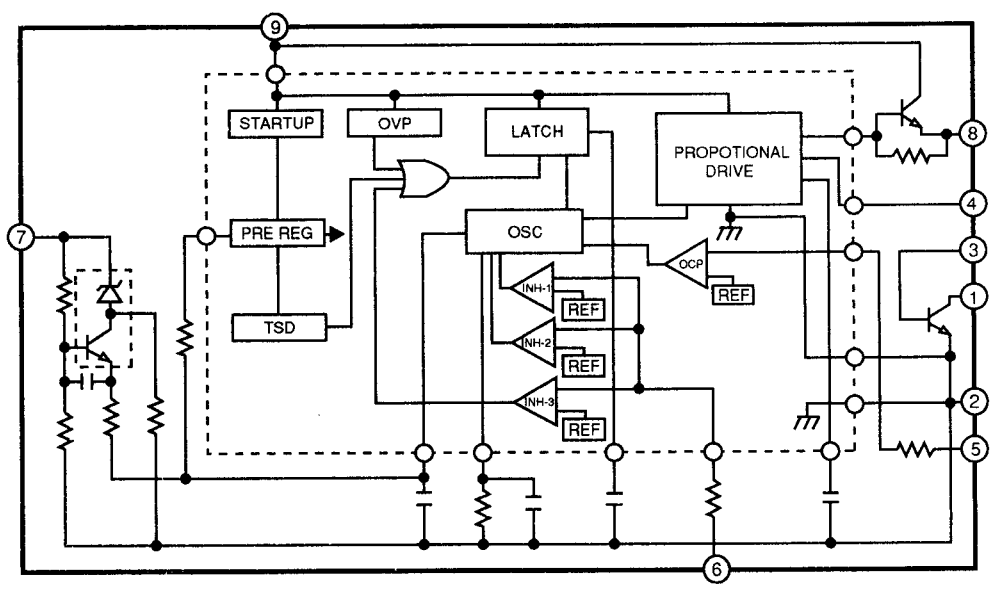
WAVEFORMS A BOARD

①  2.0 Vp-p (H)	②  1.0 Vp-p (H)	③  1.0 Vp-p (H)	④ PAL  1.0 Vp-p (H)	④ SECAM/NTSC 1.2 Vp-p (H)
⑤ PAL  1.0 Vp-p (H)	⑤ SECAM 0.5 Vp-p (H)	⑤ NTSC 1.1 Vp-p (H)	⑥ PAL 1.4 Vp-p (H)	⑥ SECAM  0.7 Vp-p (H)
⑥ NTSC  1.5 Vp-p (H)	⑦  1.0 Vp-p (H)	⑧ 1.4 Vp-p (H)	⑨ 1.5 Vp-p (H)	⑩ 0.8 Vp-p (H)
⑪ 1.8 Vp-p (V)	⑫ 55 Vp-p (V)	⑬ 7.3 Vp-p (V)	⑭ 220 Vp-p (H)	⑮ 10 Vp-p (H)
⑯  1.4KVp-p (H)	⑰ 51 Vp-p (H)	⑱ 24 Vp-p (H)		

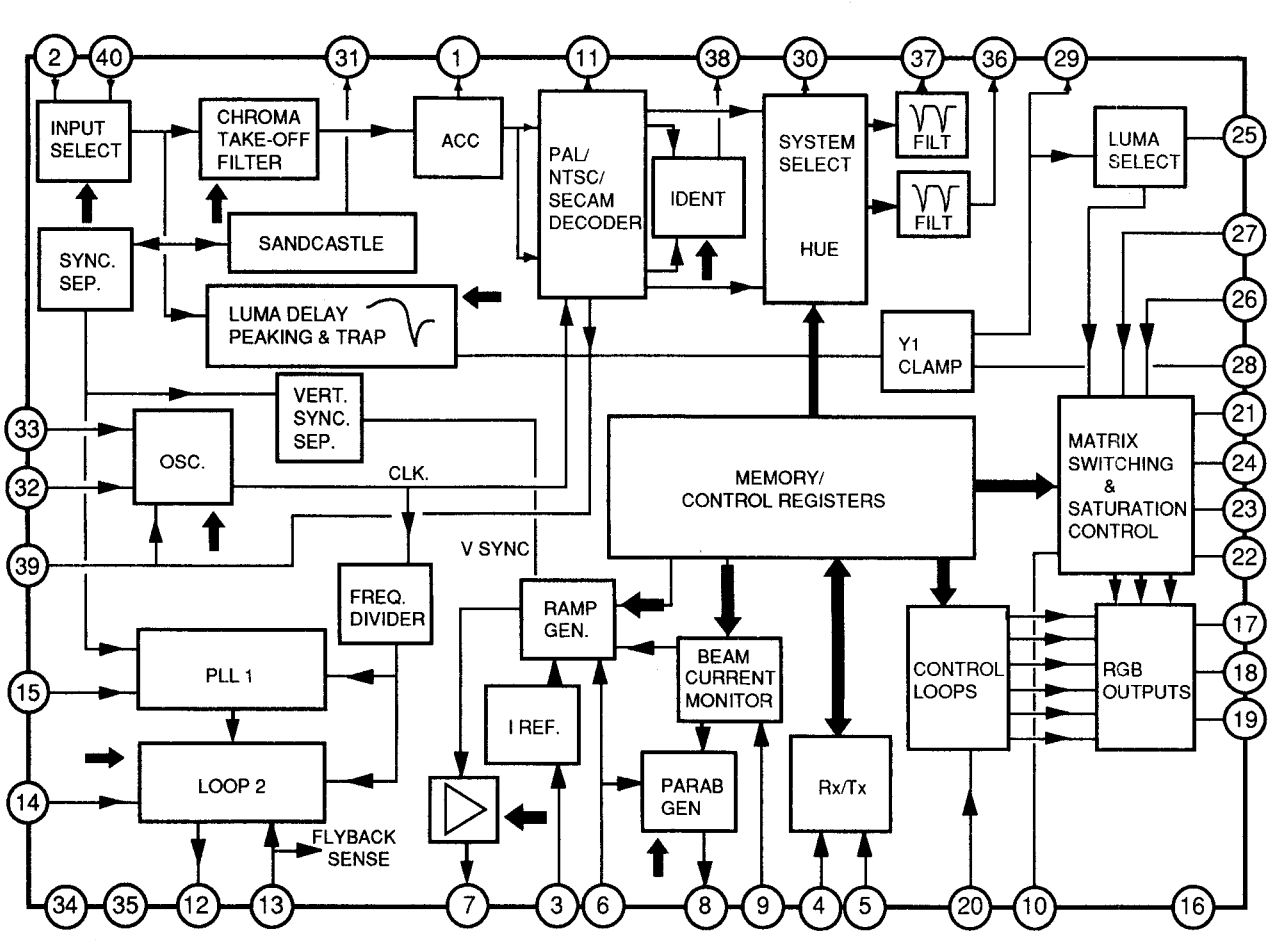
A BOARD IC101 TDA9806/TDA9812



A BOARD IC601 STRS5706

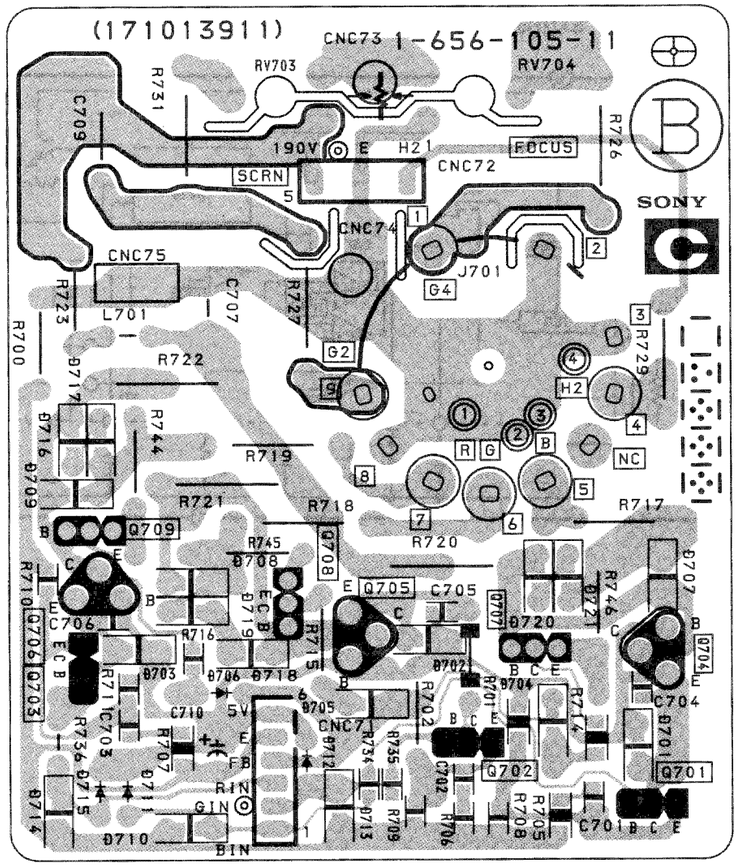


A BOARD IC301 MC4402P/MC44007P



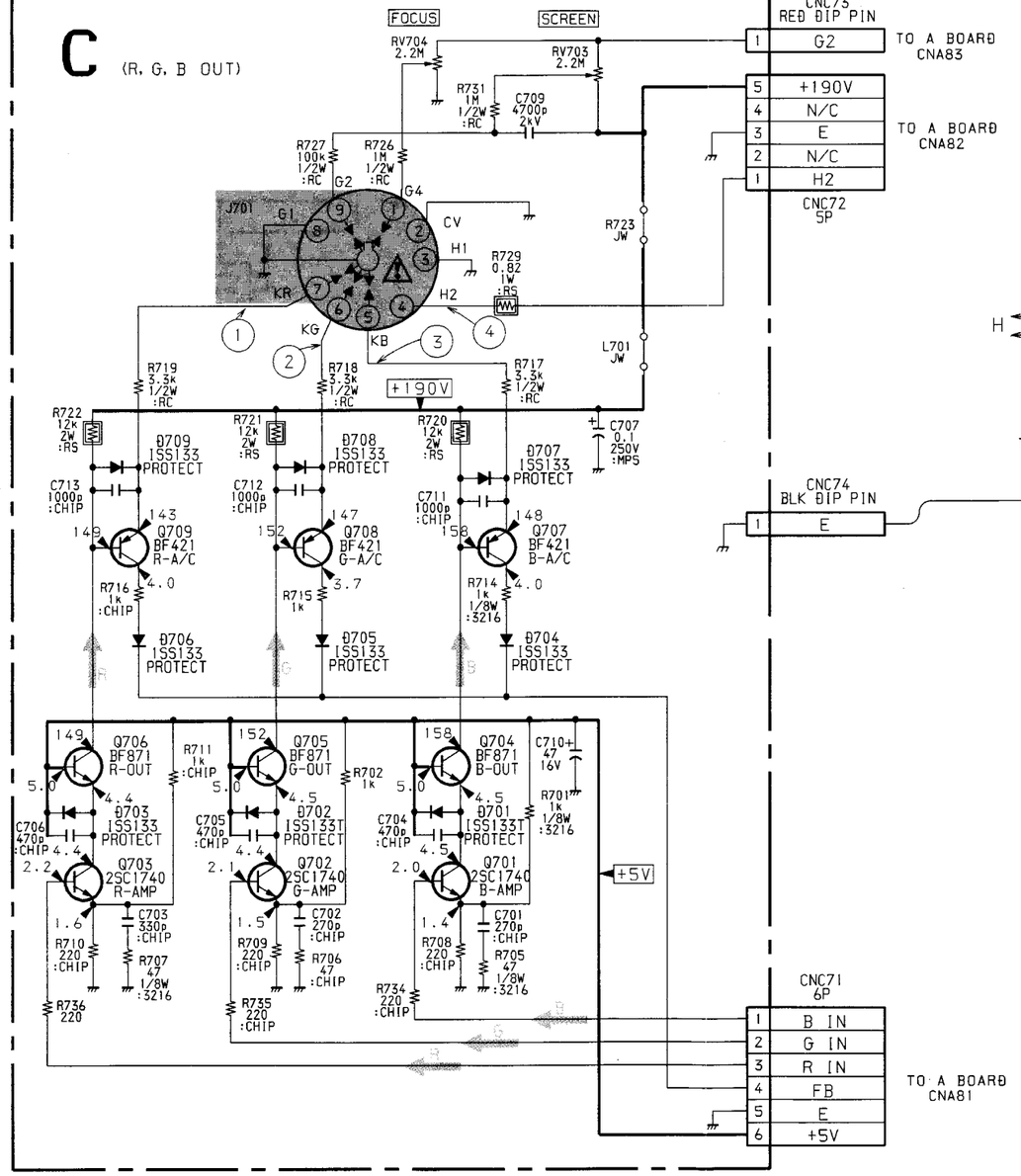
C [R.G.B OUT]

— C BOARD —

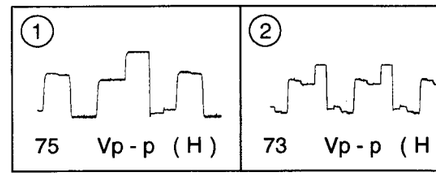


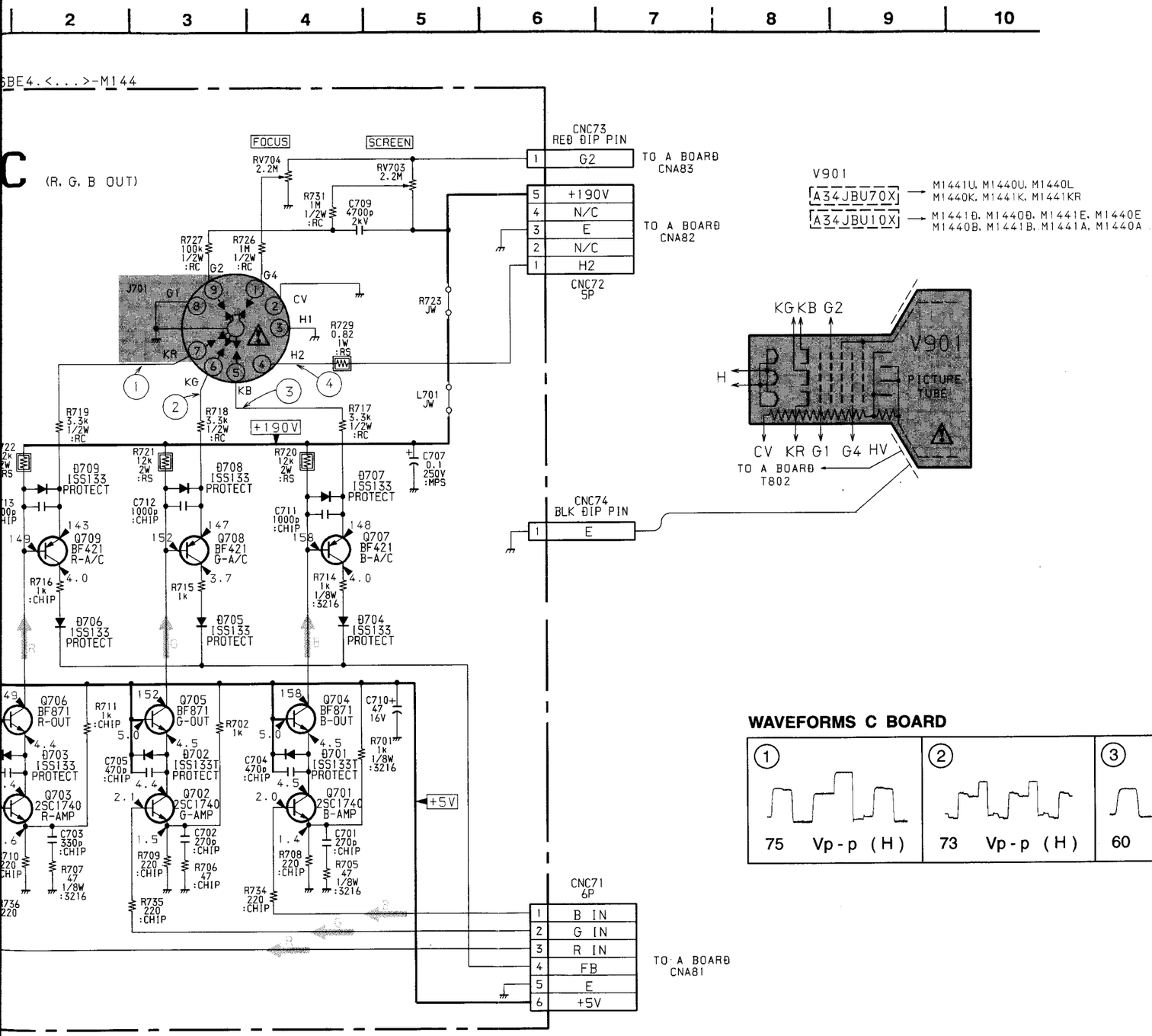
B-:SSBE4.<...>-M144

C (R, G, B OUT)



WAVEFORMS C BOARD



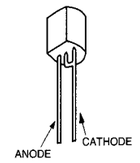


WAVEFORMS C BOARD

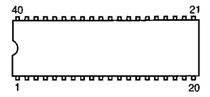
①	②	③	④
75 Vp-p (H)	73 Vp-p (H)	60 Vp-p (H)	22 Vp-p (H)

5-4. SEMICONDUCTORS

HZT33-02RE
UPC574J

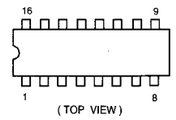


MC44002P
MC44007P



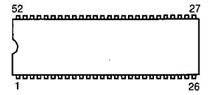
(TOP VIEW)

MC44140P



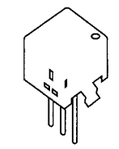
(TOP VIEW)

SAA5288ZP/005
SAA5288ZP/007
SAA5290ZP/005
SAA5290ZP/006
SAA5290ZP/007

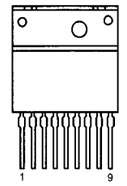


(TOP VIEW)

SBX1790-11
SBX1790-51



STR-S5706



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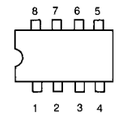
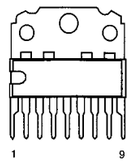


(TOP VIEW)

TDA1013B



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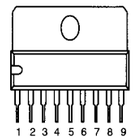

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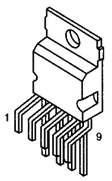

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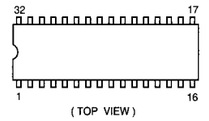

(TOP VIEW)

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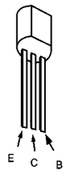
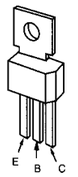
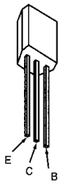
2SA1091-0



BF871



DTA144ES
DTC114ES
DTC144ES



JA101-Q
JC501-Q
2SA733-K
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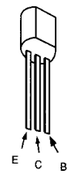

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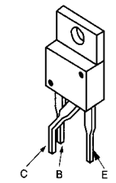

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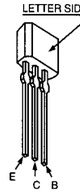

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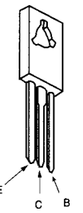

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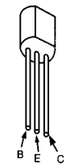
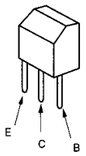
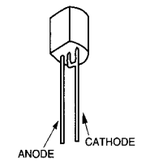


2SD774



5-4. SEMICONDUCTORS

HZT33-02RE
UPC574J



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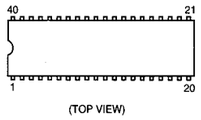

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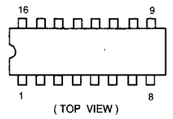

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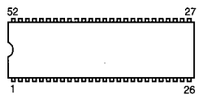
SAA5290ZP/005
SAA5290ZP/006
SAA5290ZP/007



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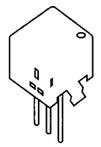

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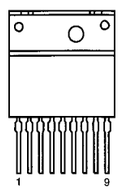

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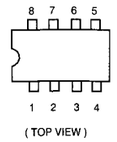

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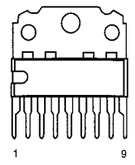

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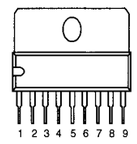

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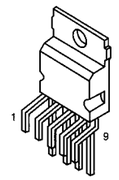

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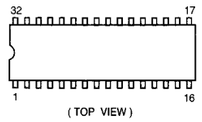

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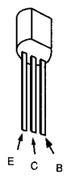

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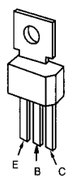

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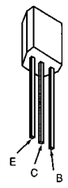
DTC144ES



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JC501-Q
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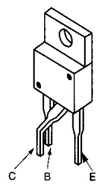
2SC2785-HFE

S2055N-16E314A



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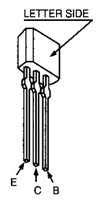

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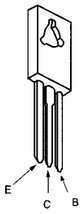

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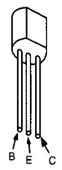

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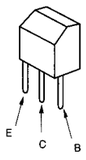

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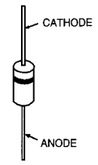
EL1Z RGP10-GPKG23
EM1-V1 1SS168
EU-1Z 1SS238
HZT33



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ERA83-006
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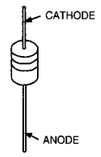
MTZJ-6.8A
RD5.1ESB2
RD6.8ESB2
1SS133



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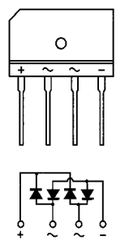

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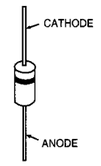

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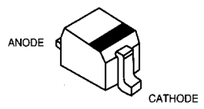

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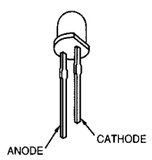
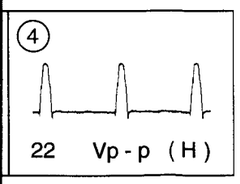




SECTION 6
EXPLODED VIEWS

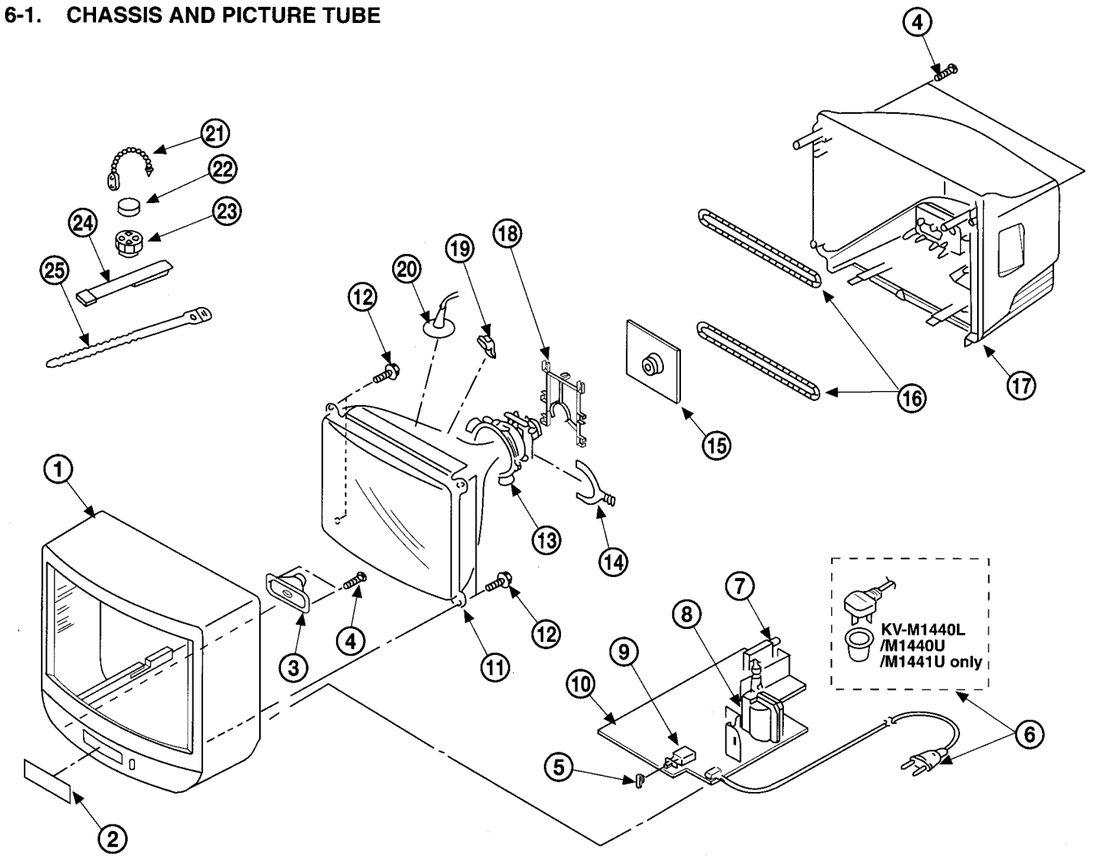
NOTE :

- Items with no part number and no description are not stocked because they are seldom required for routine service.
- The construction parts of an assembled part are indicated with a collation number in the remarks column.
- Items marked " * " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

The components identified by shading and marked ⚠ are critical for safety.
Replace only with the part number specified.

Les composants identifies par une trame et une marque ⚠ sont critiques pour la securite.
Ne les remplacer que par une piece portant le numero specifie.

6-1. CHASSIS AND PICTURE TUBE



REF NO	PART NO	DESCRIPTION	REMARK
1	X-4200-194-1	BEZNET ASSY (BLACK)	
	X-4200-194-2	BEZNET ASSY (WHITE)	
2	4-203-014-01	WINDOW, ORNAMENTAL (KV-M1441K/M1441KR/M1441U)	
	4-203-014-11	WINDOW, ORNAMENTAL (KV-M1440K/M1440L/M1440U)	
	4-203-014-21	WINDOW, ORNAMENTAL (KV-M1441B/M1441D/M1441E)	
	4-203-014-31	WINDOW, ORNAMENTAL (KV-M1440A/M1440B/M1440D/M1440E)	
	4-203-014-41	WINDOW, ORNAMENTAL (KV-M1441A)	
3	1-504-899-11	SPEAKER (9x5CM)	
4	4-039-358-01	SCREW (4x16), (+)BV TAPPING	
5	4-203-020-01	BUTTON, POWER	
6	⚠ 1-590-460-11	CORD, POWER (WITH CONNECTOR) 7.0A/250V (KV-M1440K/M1441K/M1441KR)	
	⚠ 1-590-762-11	CORD, POWER (WITH PLUG) 2.5A/250V (KV-M1440L/M1440U/M1441U)	
	⚠ 1-590-270-11	CORD, POWER (WITH CONNECTOR) 2.5A/250V (KV-M1440B/M1441A/M1440D /M1441B/M1440E/M1441D/M1441E)	
7	1-693-302-11	TUNER (UV1315) (KV-M1440K/M1441K/M1440L)	
	1-693-303-11	TUNER (TELE1X001A) (KV-M1440A/M1441A/M1441KR)	
	8-598-331-00	TUNER (BT-AC401) (KV-M1440B/M1441B /M1440D/M1441D/M1440E/M1441E)	
	8-598-333-00	TUNER (BT-AU601) (KV-M1440U/M1441U)	

The components identified by shading and marked ⚠ are critical for safety.
Replace only with the part number specified.

Les composants identifies par une trame et une marque ⚠ sont critiques pour la securite.
Ne les remplacer que par une piece portant le numero specifie.

REF NO		PART NO	DESCRIPTION	REMARK
8	⚠	1-453-186-11	TRANSFORMER ASSY, FLYBACK (NX-1730/U2A) (KV-M1440A/M1441A/M1440B/M1441B/ M1440D/M1441D/M1440E/M1441E)	
	⚠	1-453-186-11	TRANSFORMER ASSY, FLYBACK (NX-1731/U2A) (KV-M1440K/M1441K/M1441KR/M1440L/ M1440U/M1441U)	
9	⚠	1-571-433-11	SWITCH, PUSH (AC POWER)	
10		*A-1666-005-A	A AND C BOARD, COMPLETE (KV-M1441D)	
		*A-1666-006-A	A AND C BOARD, COMPLETE (KV-M1440U)	
		*A-1666-007-A	A AND C BOARD, COMPLETE (KV-M1440L)	
		*A-1666-008-A	A AND C BOARD, COMPLETE (KV-M1441K)	
		*A-1666-009-A	A AND C BOARD, COMPLETE (KV-M1440K)	
		*A-1666-010-A	A AND C BOARD, COMPLETE (KV-M1441KR)	
		*A-1666-011-A	A AND C BOARD, COMPLETE (KV-M1441U)	
		*A-1666-012-A	A AND C BOARD, COMPLETE (KV-M1440D)	
		*A-1666-013-A	A AND C BOARD, COMPLETE (KV-M1441A)	
		*A-1666-014-A	A AND C BOARD, COMPLETE (KV-M1440A)	
		*A-1666-015-A	A AND C BOARD, COMPLETE (KV-M1441E)	
		*A-1666-016-A	A AND C BOARD, COMPLETE (KV-M1440E)	
		*A-1666-017-A	A AND C BOARD, COMPLETE (KV-M1440B)	
		*A-1666-018-A	A AND C BOARD, COMPLETE (KV-M1441B)	
11	⚠	8-735-561-05	PICTURE TUBE (SD-125)(A34JBU10X) (KV-M1440A/M1441A/M1440B/M1441B/ M1440D/M1441D/M1440E/M1441E)	
	⚠	8-735-562-05	PICTURE TUBE (SD-125)(A34JBU70X) (KV-M1440K/M1441K/M1441KR/M1440L/ M1440U/M1441U)	
12		4-036-190-01	SCREW (5), TAPPING	
13	⚠	1-451-249-31	DEFLECTION YOKE (Y14NDA2) (KV-M1440A/M1441A/M1440B/M1441B/ M1440D/M1441D/M1440E/M1441E)	
	⚠	8-451-249-84	DEFLECTION YOKE (Y14NDA2) (KV-M1440K/M1441K/M1441KR/M1440L/ M1440U/M1441U)	
14		1-452-277-13	MAGNET, BMC	
15		*A-1638-063-A	C BOARD, COMPLETE (KV-M1440K/M1441K/M1441KR/M1440L/ M1440U/M1441U)	
		*A-1638-064-A	C BOARD, COMPLETE (KV-M1440A/M1441A/M1440B/M1441B/ M1440D/M1441D/M1440E/M1441E)	
16	⚠	1-426-145-21	COIL, DEGAUSSING	
17		4-203-019-01	COVER (SC), REAR (BLACK)	
		4-203-019-11	COVER (SC), REAR (WHITE)	
18		*4-203-022-01	HOLDER, HV	
19		3-704-495-01	SPACER, DY	
20	⚠	1-540-007-11	CAP ASSY, HIGH-VOLTAGE	
21		4-308-870-00	CLIP, LEAD WIRE	
22		1-452-032-00	MAGNET, DISK; 10MM Ø	
23		1-452-094-00	MAGNET, ROTATABLE DISK; 15MM Ø	
24		X-4309-608-0	PERMALLOY ASSY, CONVERGENCE	
25		3-701-007-00	BAND, BINDING	

SECTION 7

ELECTRICAL PARTS LIST

When indicating parts by reference number, please include the board name.

CAPACITORS
MF : mF , PF : mmF

COILS
MMH : mH , μH : mH

- Items marked " * " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.

RESISTORS
- All resistors are in ohms
- F : nonflammable

The components identified by shading and marked ⚠ are critical for safety.
Replace only with the part number specified.

Les composants identifies par une trame et une marque ⚠ sont critiques pour la securite.
Ne les remplacer que par une piece portant le numero specifie.

A and C

REF.NO.	PART NO.	DESCRIPTION			REMARK
	*A-1666-014-A	A AND C BOARD, COMPLETE (KV-M1440A)			
		**********			
	*A-1666-013-A	A AND C BOARD, COMPLETE (KV-M1441A)			
		**********			
	*A-1666-017-A	A AND C BOARD, COMPLETE (KV-M1440B)			
		**********			
	*A-1666-018-A	A AND C BOARD, COMPLETE (KV-M1441B)			
		**********			
	*A-1666-012-A	A AND C BOARD, COMPLETE (KV-M1440D)			
		**********			
	*A-1666-005-A	A AND C BOARD, COMPLETE (KV-M1441D)			
		**********			
	*A-1666-016-A	A AND C BOARD, COMPLETE (KV-M1440E)			
		**********			
	*A-1666-015-A	A AND C BOARD, COMPLETE (KV-M1441E)			
		**********			
	*A-1666-009-A	A AND C BOARD, COMPLETE (KV-M1440K)			
		**********			
	*A-1666-008-A	A AND C BOARD, COMPLETE (KV-M1441K)			
		**********			
	*A-1666-010-A	A AND C BOARD, COMPLETE (KV-M1441KR)			
		**********			
	*A-1666-006-A	A AND C BOARD, COMPLETE (KV-M1440U)			
		**********			
	*A-1666-011-A	A AND C BOARD, COMPLETE (KV-M1441U)			
		**********			
	*A-1666-007-A	A AND C BOARD, COMPLETE (KV-M1440L)			
		**********			
	4-382-854-11	SCREW (M3X10), P, SW (+)			
		< CAPACITOR >			
C001	1-163-105-00	CERAMIC CHIP	33PF	5%	50V
C002	1-163-105-00	CERAMIC CHIP	33PF	5%	50V
C004	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C005	1-126-964-11	ELECT	10MF	20%	50V
C006	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C007	1-130-777-00	FILM	0.1MF	5%	63V
C008	1-128-551-11	ELECT	22MF	20%	50V
C009	1-163-023-91	CERAMIC CHIP	0.015MF	10%	50V
C010	1-163-021-91	CERAMIC CHIP	0.01MF	10%	50V
C011	1-163-038-91	CERAMIC CHIP	0.1MF		25V
C012	1-163-031-91	CERAMIC CHIP	10000PF		50V
C014	1-163-038-91	CERAMIC CHIP	0.1MF		25V
C015	1-126-964-11	ELECT	10MF	20%	50V
C016	1-164-005-11	CERAMIC CHIP	0.47MF		16V
C017	1-164-005-11	CERAMIC CHIP	0.47MF		16V
C019	1-124-903-11	ELECT	1MF	20%	50V
C020	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C022	1-124-903-11	ELECT	1MF	20%	50V
C024	1-163-038-91	CERAMIC CHIP	0.1MF		25V
C025	1-126-964-11	ELECT	10MF	20%	50V
C026	1-126-964-11	ELECT	10MF	20%	50V
C027	1-163-038-91	CERAMIC CHIP	100000PF		25V
C028	1-163-043-91	CERAMIC CHIP	15PF	5%	50V
C029	1-163-009-91	CERAMIC CHIP	1000PF	10%	50V
C030	1-163-021-91	CERAMIC CHIP	10000PF	10%	100V
C031	1-163-009-91	CERAMIC CHIP	1000PF	5%	25V
C101	1-164-005-11	CERAMIC CHIP	0.47MF		16V
C102	1-164-005-11	CERAMIC CHIP	0.47MF		16V
C103	1-164-005-11	CERAMIC CHIP	0.47MF		16V
C104	1-163-021-91	CERAMIC CHIP	0.01MF	10%	50V (KV-M1440B/M1441B)
C109	1-163-038-91	CERAMIC CHIP	0.1MF		25V (KV-M1440B/M1441B)
C110	1-163-021-91	CERAMIC CHIP	0.01MF	10%	50V (KV-M1440B/M1441B)
C112	1-137-399-11	FILM	0.1MF	5%	50V (KV-M1440B/M1441B)
C114	1-136-169-00	FILM	0.22MF	5%	50V
C116	1-124-925-11	ELECT	2.2MF	20%	50V (KV-M1440B/M1441B)
C117	1-163-035-00	CERAMIC CHIP	0.047MF		50V
C120	1-126-923-11	ELECT	220MF	20%	10V
C121	1-136-153-00	FILM	0.01MF	5%	50V
C122	1-164-665-11	CERAMIC CHIP	0.039MF	10%	50V
C123	1-163-105-00	CERAMIC CHIP	33PF	5%	50V
C124	1-164-665-11	CERAMIC CHIP	0.039MF	10%	50V
C126	1-104-658-91	ELECT	47MF	20%	16V
C127	1-128-551-11	ELECT	22MF	20%	50V
C131	1-163-009-91	CERAMIC CHIP	0.001UF	10%	50V (KV-M1440K/M1441K/M1441KR)
C138	1-124-925-11	ELECT	2.2MF	20%	50V
C139	1-124-925-11	ELECT	2.2MF	20%	50V
C140	1-163-021-91	CERAMIC CHIP	0.01MF	10%	50V
C141	1-128-551-11	ELECT	22MF	20%	50V
C147	1-164-665-11	CERAMIC CHIP	0.039MF	10%	50V
C149	1-163-101-00	CERAMIC CHIP	22PF	5%	50V
C150	1-163-101-00	CERAMIC CHIP	22PF	5%	50V
C151	1-163-009-91	CERAMIC CHIP	0.001MF	10%	50V
C152	1-126-964-11	ELECT	10MF	20%	50V
C153	1-163-099-00	CERAMIC CHIP	18PF	5%	50V
C154	1-163-031-91	CERAMIC CHIP	0.01MF		50V
C155	1-163-038-91	CERAMIC CHIP	0.1MF		25V
C157	1-163-038-91	CERAMIC CHIP	0.1MF		25V

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A and C

REF.NO.	PART NO.	DESCRIPTION	REMARK
C158	1-124-927-11	ELECT 4.7MF 20%	50V
C161	1-163-021-91	CERAMIC CHIP 0.01MF 10%	50V
			(KV-M1440B/M1441B)
C162	1-104-658-91	ELECT 47MF 20%	16V
C164	1-162-638-11	CERAMIC CHIP 1MF	16V
			(KV-M1440B/M1441B)
C165	1-104-658-91	ELECT 47MF 20%	16V
C166	1-104-658-91	ELECT 100MF 20%	10V
			(KV-M1440B/M1441B)
C200	1-163-071-91	CERAMIC CHIP 0.01MF 10%	50V
C300	1-126-934-11	ELECT 220MF 20%	16V
C301	1-163-077-00	CERAMIC CHIP 0.1MF 10%	25V
C302	1-163-035-00	CERAMIC CHIP 0.047MF	50V
C304	1-163-059-91	CERAMIC CHIP 0.01MF 10%	50V
C305	1-124-925-11	ELECT 2.2MF 20%	50V
C306	1-130-494-11	FILM 0.082MF 5%	50V
C307	1-163-038-91	CERAMIC CHIP 0.1MF	25V
C308	1-163-021-91	CERAMIC CHIP 0.01MF 10%	50V
C309	1-124-927-11	ELECT 4.7MF 20%	50V
C310	1-163-077-00	CERAMIC CHIP 0.1MF 10%	25V
C312	1-164-004-11	CERAMIC CHIP 0.1MF 10%	25V
C313	1-163-011-11	CERAMIC CHIP 0.0015MF 10%	50V
C314	1-163-077-91	CERAMIC CHIP 0.1MF	50V
C315	1-163-038-91	CERAMIC CHIP 0.1MF	25V
C316	1-163-038-91	CERAMIC CHIP 0.1MF	25V
C317	1-163-038-91	CERAMIC CHIP 0.1MF	25V
C318	1-163-038-91	CERAMIC CHIP 0.1MF	25V
C319	1-163-038-91	CERAMIC CHIP 0.1MF	25V
C320	1-163-038-91	CERAMIC CHIP 0.1MF	25V
C321	1-124-927-11	ELECT 4.7MF 20%	50V
C323	1-163-163-91	CERAMIC CHIP 18PF 5%	50V
C324	1-163-119-00	CERAMIC CHIP 120PF 5%	50V
C325	1-163-035-00	CERAMIC CHIP 0.047MF	50V
C326	1-164-004-11	CERAMIC CHIP 0.1MF 10%	25V
C328	1-163-035-00	CERAMIC CHIP 0.047MF	50V
C329	1-163-016-00	CERAMIC CHIP 0.0039MF 10%	50V
C330	1-164-004-11	CERAMIC CHIP 0.1MF 10%	25V
C332	1-163-038-91	CERAMIC CHIP 0.1MF	25V
C333	1-163-033-91	CERAMIC CHIP 0.022MF	50V
C334	1-128-551-11	ELECT 22MF 20%	50V
C335	1-163-021-91	CERAMIC CHIP 0.01MF 10%	50V
C336	1-162-638-11	CERAMIC CHIP 1MF	16V
C337	1-162-638-11	CERAMIC CHIP 1MF	16V
C338	1-128-551-11	ELECT 22MF 20%	50V
C339	1-163-021-91	CERAMIC CHIP 0.01MF 10%	50V
C340	1-163-038-91	CERAMIC CHIP 0.1MF	25V
C341	1-163-021-91	CERAMIC CHIP 0.01MF 10%	50V
C344	1-104-658-91	ELECT 47MF 20%	50V
C345	1-163-139-00	CERAMIC CHIP 820PF 10%	50V
C347	1-163-021-91	CERAMIC CHIP 0.01MF 10%	50V
C348	1-163-031-91	CERAMIC CHIP 0.01MF	50V
			(KV-M1440B/M1441B)
C349	1-128-551-11	ELECT 22MF 20%	50V
			(KV-M1440B/M1441B)
C350	1-163-021-91	CERAMIC CHIP 0.01MF 10%	100V
C351	1-164-004-11	CERAMIC CHIP 0.1MF 10%	25V
C353	1-163-117-00	CERAMIC CHIP 100PF 5%	50V
C354	1-163-055-00	CERAMIC CHIP 0.0047MF 10%	50V
C355	1-163-071-91	CERAMIC CHIP 0.01MF	50V
C358	1-163-021-91	CERAMIC CHIP 0.01MF 10%	100V

REF.NO.	PART NO.	DESCRIPTION	REMARK
C359	1-126-964-11	ELECT 10MF 20%	50V
C360	1-163-021-91	CERAMIC CHIP 10000PF 10%	100V
C401	1-104-658-91	ELECT 47MF 20%	16V
C402	1-163-009-91	CERAMIC CHIP 0.001MF 10%	50V
C404	1-163-038-91	CERAMIC CHIP 0.1MF	25V
C405	1-163-038-91	CERAMIC CHIP 0.1MF	25V
C406	1-124-927-11	ELECT 4.7MF 20%	50V
C407	1-104-666-11	ELECT 220MF 20%	25V
C408	1-126-941-11	ELECT 470MF 20%	25V
C410	1-163-038-91	CERAMIC CHIP 0.1MF	25V
C412	1-163-038-91	CERAMIC CHIP 0.1MF	25V
C413	1-124-927-11	ELECT 4.7MF 20%	50V
C415	1-163-009-91	CERAMIC CHIP 0.001MF 10%	50V
C416	1-163-031-91	CERAMIC CHIP 0.01MF	50V
C417	1-163-031-91	CERAMIC CHIP 0.01MF	50V
C500	1-130-489-00	FILM 0.033MF 5%	50V
C501	1-124-927-11	ELECT 4.7MF 20%	50V
C502	1-163-077-91	CERAMIC CHIP 0.1MF	50V
C503	1-107-894-91	ELECT 220MF 20%	35V
C504	1-124-122-11	ELECT 100MF 20%	50V
C505	1-126-941-11	ELECT 470MF 20%	25V
C506	1-163-009-91	CERAMIC CHIP 0.001MF 10%	50V
C507	1-124-903-11	ELECT 1MF 20%	50V
C508	1-106-228-00	MYLAR 0.22MF 10%	100V
C509	1-163-035-00	CERAMIC CHIP 0.047MF	50V
C600		ELECT 47MF 20% 50V	
C601 ⚠	1-107-563-11	FILM 0.1MF 20%	300V
C602 ⚠	1-107-563-11	FILM 0.1MF 20%	300V
C603 ⚠	1-162-599-12	CERAMIC 0.0047MF	250V
C604 ⚠	1-162-599-12	CERAMIC 0.0047MF	250V
C606	1-113-473-11	CAP, ELECT 180MF	
C607	1-104-666-11	ELECT 220MF 20%	25V
C608	1-126-964-11	ELECT 10MF 20%	50V
C609	1-109-921-11	CERAMIC 0.0015MF 10%	500V
C610	1-104-665-11	ELECT 100MF 20%	25V
C611	1-126-964-11	ELECT 10MF 20%	50V
C612 ⚠	1-161-742-00	CERAMIC 0.0022MF 20%	400V
C613 ⚠	1-161-742-00	CERAMIC 0.0022MF 20%	400V
C614	1-136-538-11	FILM 0.001MF 3%	2KV
C618	1-162-116-00	CERAMIC 680PF 10%	2KV
C619	1-102-228-00	CERAMIC 470PF 10%	500V
C620	1-124-347-00	ELECT 100MF 20%	160V
C621	1-126-942-61	ELECT 1000MF 20%	25V
C622	1-126-952-11	ELECT 1000MF 20%	16V
C625	1-164-222-11	CERAMIC CHIP 0.22MF	25V
C626	1-104-658-91	ELECT 100MF 20%	16V
C627	1-104-658-91	ELECT 100MF 20%	16V
C701	1-163-127-00	CERAMIC CHIP 270PF 5%	50V
C702	1-163-127-00	CERAMIC CHIP 270PF 5%	50V
C703	1-163-129-00	CERAMIC CHIP 330PF 5%	50V
C704	1-163-133-00	CERAMIC CHIP 470PF 5%	50V
C705	1-163-133-00	CERAMIC CHIP 470PF 5%	50V
C706	1-163-133-00	CERAMIC CHIP 470PF 5%	50V
C707	1-136-189-00	FILM 0.1MF 10%	250V
C709	1-162-114-00	CERAMIC 0.0047MF	2KV
C710	1-124-477-11	ELECT 47MF 20%	16V
C711	1-163-009-91	CERAMIC CHIP 0.001MF 10%	50V
C712	1-163-009-91	CERAMIC CHIP 0.001MF 10%	50V
C713	1-163-009-91	CERAMIC CHIP 0.001MF 10%	50V
C800	1-126-772-11	ELECT 1MF 20%	250V

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C803	1-136-106-00	FILM	0.36MF	5%	200V
C804	1-124-902-00	ELECT	0.47MF	20%	50V
C806	1-102-244-00	CERAMIC	220PF	10%	500V
C807	1-107-652-11	ELECT	10MF	20%	250V
C809	1-161-754-00	CERAMIC	0.001MF	10%	2KV
C810	1-129-702-00	FILM	0.001MF	10%	400V
C811	1-102-228-00	CERAMIC	470PF	10%	500V
C814	1-111-269-11	FILM	0.007MF	3%	2KV
C815	1-162-116-00	CERAMIC	680PF	10%	2KV
C816	1-162-114-00	CERAMIC	0.0047MF		2KV
C817	1-136-559-11	MYLAR	0.0047MF	10%	400V
C819	1-162-318-11	CERAMIC	0.001MF	10%	500V
C820	1-126-949-11	ELECT	220MF	20%	35V
C822	1-104-696-11	FILM	0.015MF	10%	100V
C823	1-106-375-12	MYLAR	0.022MF	10%	250V
C824	1-106-367-00	MYLAR	0.01MF	10%	400V
C825	1-136-104-00	FILM	0.16MF	5%	200V
C826	1-129-723-00	FILM	0.068MF	10%	200V
		< FILTER >			
CF101	1-404-801-31	TRAP, CERAMIC (KV-M1440A/M1441A/M1440D/M1441D/M1440E/M1441E/M1440K/M1441K/M1441KR)			
	1-409-429-11	TRAP, CERAMIC (KV-M1440L/M1440U/M1441U)			
	1-409-430-11	TRAP, CERAMIC (KV-M1440B/M1441B)			
CF102	1-409-327-00	TRAP, CERAMIC (6.5 MHz) (KV-M1440K/M1441K/M1441KR)			
CF103	1-567-100-22	FILTER, CERAMIC (KV-M1440L/M1440U/M1441U)			
	1-760-106-11	FILTER, CERAMIC (KV-M1440A/M1441A/M1440B/M1441B/M1440D/M1441D/M1440E/M1441E/M1440K/M1441K/M1441KR)			
CF104	1-567-101-22	FILTER, CERAMIC (KV-M1440K/M1441K/M1441KR)			
CF105	1-760-154-11	TRAP, CERAMIC (KV-M1440B/M1441B)			
SWF101	1-579-120-12	FILTER, SURFACE WAVE (KV-M1440A/M1441A/M1440D/M1441D/M1440E/M1441E)			
	1-579-273-11	FILTER, SURFACE WAVE (KV-M1440B/M1441B)			
	1-579-414-12	FILTER, SURFACE WAVE (KV-M1440K/M1441K/M1441KR)			
	1-760-711-11	FILTER, SURFACE WAVE (KV-M1440L/M1440U/M1441U)			
SWF102	1-760-722-11	FILTER, SURFACE WAVE (KV-M1440B/M1441B)			
		< CONNECTOR >			
CN001	*1-568-880-51	PIN, CONNECTOR 5P			
CN201	*1-564-506-11	PLUG, CONNECTOR 3P			
CN601 ⚠	*1-580-844-11	PIN, CONNECTOR (POWER)			
CN602	1-508-786-00	PIN, CONNECTOR (5MM PITCH) 2P (KV-M1440A/M1441A/M1440B/M1441B/M1440D/M1441D/M1440E/M1441E)			
CN603 ⚠	1-508-786-00	PIN, CONNECTOR (5MM PITCH) 2P			
CN801	*1-580-798-11	CONNECTOR PIN (DY) 6P			
CN804	*1-568-879-11	PIN, CONNECTOR 4P			
		< DIODE >			
D001	8-719-052-94	DIODE LR5360-DG			
D002	8-759-157-40	IC μPC574J			
D004	8-719-109-85	DIODE RD5.1ESB2			
D005	8-719-901-33	DIODE 1SS133			
D006	8-719-901-33	DIODE 1SS133			
D014	8-719-901-33	DIODE 1SS133			
D100	8-719-901-33	DIODE 1SS133			
D102	8-719-903-27	DIODE 1SS168 (KV-M1440B/M1441B)			
D104	8-719-903-27	DIODE 1SS168 (KV-M1440B/M1441B)			
D105	8-719-901-33	DIODE 1SS133 (KV-M1440K/M1441K/M1441KR)			
D106	8-719-901-33	DIODE 1SS133 (KV-M1440K/M1441K/M1441KR)			
D107	8-719-901-33	DIODE 1SS133			
D109	8-719-820-71	DIODE 1SV214			
D301	8-719-901-33	DIODE 1SS133			
D302	8-719-901-33	DIODE 1SS133			
D305	8-719-901-33	DIODE 1SS133			
D307	8-719-901-33	DIODE 1SS133 (KV-M1440B/M1441B)			
D308	8-719-901-33	DIODE 1SS133 (KV-M1440B/M1441B)			
D309	8-719-901-33	DIODE 1SS133			
D310	8-719-901-33	DIODE 1SS133			
D311	8-719-109-97	DIODE RD6.8ESB2			
D312	8-719-109-97	DIODE RD6.8ESB2			
D313	8-719-109-97	DIODE RD6.8ESB2			
D401	8-719-109-97	DIODE RD6.8ESB2			
D402	8-719-109-97	DIODE RD6.8ESB2			
D403	8-719-109-97	DIODE RD6.8ESB2			
D404	8-719-109-97	DIODE RD6.8ESB2			
D405	8-719-109-97	DIODE RD6.8ESB2			
D406	8-719-109-97	DIODE RD6.8ESB2			
D407	8-719-109-97	DIODE RD6.8ESB2			
D408	8-719-109-97	DIODE RD6.8ESB2			
D409	8-719-901-33	DIODE 1SS133			
D410	8-719-109-97	DIODE RD6.8ESB2			
D501	8-719-302-43	DIODE EL1Z			
D600	8-719-901-33	DIODE 1SS133			
D601	8-719-046-77	DIODE EM1-V1			
D602	8-719-312-61	DIODE EU-1Z			
D603	8-719-046-78	DIODE EG-1Z-V1			
D604	8-719-312-61	DIODE EU-1Z			
D605	8-719-312-61	DIODE EU-1Z			
D606	8-719-979-85	DIODE EGP20G			
D607	8-719-302-43	DIODE EL1Z			
D608	8-719-980-78	DIODE ERA83-006			
D610	8-719-025-88	DIODE GBU4JL-6088			
D611	8-719-901-33	DIODE 1SS133			
D802	8-719-302-43	DIODE EL1Z			
D804	8-719-028-72	DIODE 17EL-6433			
D806	8-719-302-43	DIODE EL1Z			
D807	8-719-901-33	DIODE 1SS133			
		< FUSE >			
F601 ⚠	1-576-231-11	FUSE (M.B.C.) 4A, 250V			
	1-533-230-11	HOLDER, FUSE ; F601			
		< FERRITE BEAD >			
FB001	1-410-397-21	FERRITE BEAD INDUCTOR 1.1UH			
FB002	1-410-397-21	FERRITE BEAD INDUCTOR 1.1UH			
FB003	1-410-397-31	FERRITE BEAD INDUCTOR 1.1UH			
FB601	1-410-397-21	FERRITE BEAD INDUCTOR 1.1UH			
FB603	1-410-397-21	FERRITE BEAD INDUCTOR 1.1UH			
FB604	1-410-397-21	FERRITE BEAD INDUCTOR 1.1UH			
FB605	1-410-397-21	FERRITE BEAD INDUCTOR 1.1UH			

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REF.NO.	PART NO.	DESCRIPTION	REMARK
		< IC >	
IC001	8-759-354-62	IC SAA5290ZP/005 (KV-M1441U)	
	8-759-354-63	IC SAA5290ZP/006 (KV-M1441KR)	
	8-759-354-64	IC SAA5290ZP/007 (KV-M1441A/M1441B/M1441D/M1441E/M1441K)	
	8-759-354-82	IC SAA5288ZP/007 (KV-M1440A/M1440B/M1440D/M1440E/M1440K)	
	8-759-354-83	IC SAA5288ZP/005 (KV-M1440L/M1440U)	
IC002	8-759-280-74	IC ST24C02CB1	
IC003	8-747-905-11	IC SBX1790-51	
IC101	8-759-333-17	IC TDA9812 (KV-M1441B)	
	8-759-333-19	IC TDA9806 (KV-M1440A/M1441A/M1440B/M1440D/M1441D/M1440E/M1441E/M1440K/M1441K/M1441KR/M1440L/M1440U/M1441U)	
IC301	8-759-333-44	IC MC44007P (KV-M1440A/M1441A/M1440E/M1441E/M1440L/M1440U/M1441U)	
	8-759-333-45	IC MC44002P (KV-M1440B/M1441B/M1440D/M1441D/M1440K/M1441K/M1441KR)	
IC302	8-759-333-46	IC MC44140P	
IC401	8-759-041-82	IC TDA1013B	
IC501	8-759-324-56	IC TDA9302H	
IC601	8-749-011-02	IC STR-S5706	
IC603	8-759-337-99	IC TDA8139	
		< SOCKET >	
J201	1-568-267-21	JACK	
J401	1-695-551-11	SOCKET 21P	
		< CRT SOCKET >	
J701	⚠ 1-251-192-11	SOCKET, CRT	
		< COIL >	
L101	1-410-669-31	INDUCTOR 33UH	
L105	1-408-411-00	INDUCTOR 15UH	
L108	1-408-405-00	INDUCTOR 4.7UH (KV-M1440K/M1441K/M1441KR)	
	1-408-408-00	INDUCTOR 8.2UH (KV-M1440A/M1441A/M1440B/M1441B/M1440D/M1441D/M1440E/M1441E/M1440L/M1440U/M1441U)	
L109	1-403-686-12	COIL	
L110	1-410-673-31	INDUCTOR 68UH	
L111	1-410-665-41	INDUCTOR 15UH (KV-M1440B/M1441B)	
L112	1-408-417-00	INDUCTOR 47UH	
L113	1-410-985-41	INDUCTOR CHIP 0.22UH	
L201	1-408-609-41	INDUCTOR 33UH	
L602	1-408-609-41	INDUCTOR 33UH	
L603	1-410-669-31	INDUCTOR 33UH	
L604	1-408-417-00	INDUCTOR 47UH	
L800	1-412-553-11	INDUCTOR 3.3MMH	
L802	1-407-365-00	COIL,CHOKE	
L805	1-412-531-31	INDUCTOR 33UH	
L806	1-459-756-12	COIL, HORIZONTAL LINEARITY	
		< IC LINK >	
PS602	⚠ 1-532-686-21	LINK, IC 2.7A (ICP-N75)	
PS603	⚠ 1-532-637-00	LINK, IC 1.0A (ICP-N25)	

REF.NO.	PART NO.	DESCRIPTION	REMARK
		< TRANSISTOR >	
Q001	8-729-922-67	TRANSISTOR 2SC2410	
Q002	8-729-026-40	TRANSISTOR 2SA933AS-RT	
Q005	8-729-901-81	TRANSISTOR 2SC2412K-QR	
Q006	8-729-026-40	TRANSISTOR 2SA933AS-RT	
Q007	8-729-900-95	TRANSISTOR 2SC2785-HFE	
Q008	8-729-900-95	TRANSISTOR 2SC2785-HFE	
Q009	8-729-900-95	TRANSISTOR 2SC2785-HFE	
Q010	8-729-901-81	TRANSISTOR 2SC2412K-QR	
Q011	8-729-900-89	TRANSISTOR DTC144ES	
Q012	8-729-901-81	TRANSISTOR 2SC2412K-QR	
Q013	8-729-901-81	TRANSISTOR 2SC2412K-QR	
Q014	8-729-901-81	TRANSISTOR 2SC2412K-QR	
Q015	8-729-901-81	TRANSISTOR 2SC2412K-QR	
Q016	8-729-902-21	TRANSISTOR 2SC1162-G	
Q100	8-729-901-01	TRANSISTOR DTC144EK	
Q101	8-729-900-80	TRANSISTOR DTC114ES (KV-M1440B/M1441B)	
Q102	8-729-900-80	TRANSISTOR DTC114ES (KV-M1440B/M1441B)	
Q103	8-729-900-80	TRANSISTOR DTC114ES (KV-M1440B/M1441B)	
Q105	8-729-901-01	TRANSISTOR DTC144EK	
Q107	8-729-900-95	TRANSISTOR 2SC2785-HFE	
Q109	8-729-022-54	TRANSISTOR 2SC3779C,D-AA (KV-M1440B/M1441B)	
Q110	8-729-901-01	TRANSISTOR DTC144EK	
Q111	8-729-900-89	TRANSISTOR DTC144ES (KV-M1440K/M1441K/M1441KR)	
Q112	8-729-900-95	TRANSISTOR 2SC2785-HFE	
Q113	8-729-900-89	TRANSISTOR DTC144ES (KV-M1440K/M1441K/M1441KR)	
Q114	8-729-901-01	TRANSISTOR DTC144EK	
Q115	8-729-026-40	TRANSISTOR 2SA1175-HFE (KV-M1440B/M1441B)	
Q116	8-729-900-89	TRANSISTOR DTC144ES (KV-M1440B/M1441B)	
Q300	8-729-900-80	TRANSISTOR DTC114ES	
Q301	8-729-900-95	TRANSISTOR 2SC2785-HFE	
Q302	8-729-900-80	TRANSISTOR DTC114ES	
Q303	8-729-900-80	TRANSISTOR DTC114ES	
Q304	8-729-900-80	TRANSISTOR DTC114ES	
Q305	8-729-900-80	TRANSISTOR DTC114ES	
Q306	8-729-900-80	TRANSISTOR DTC114ES	
Q307	8-729-119-76	TRANSISTOR 2SA1175-HFE (KV-M1440B/M1441B)	
Q401	8-729-900-95	TRANSISTOR 2SC2785-HFE	
Q402	8-729-902-21	TRANSISTOR 2SA1162-G	
Q403	8-729-901-81	TRANSISTOR 2SC2412K-QR	
Q404	8-729-901-81	TRANSISTOR 2SC2412K-QR	
Q500	8-729-920-09	TRANSISTOR 2SD1763A	
Q501	8-729-900-95	TRANSISTOR 2SC2785-HFE	
Q600	8-729-900-95	TRANSISTOR 2SC2785-HFE	
Q602	8-729-900-65	TRANSISTOR DTA144ES	
Q801	8-729-140-96	TRANSISTOR 2SC2688-LK	
Q802	8-729-031-72	TRANSISTOR S2055N-16E314A	
Q803	8-729-900-89	TRANSISTOR DTC144ES	
		< RESISTOR >	
JR004	1-216-296-00	METAL GLAZE 0 5% 1/8W	
JR007	1-216-295-91	METAL GLAZE 0 5% 1/10W	
JR008	1-216-295-91	METAL GLAZE 0 5% 1/10W	
JR009	1-216-295-91	METAL GLAZE 0 5% 1/10W	
JR012	1-216-295-91	METAL GLAZE 0 5% 1/10W	

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REF.NO.	PART NO.	DESCRIPTION				REMARK
JR013	1-216-295-91	METAL GLAZE	0	5%	1/10W	
JR015	1-216-295-91	METAL GLAZE	0	5%	1/10W	
JR017	1-216-295-91	METAL GLAZE	0	5%	1/10W	
JR018	1-216-296-00	METAL GLAZE	0	5%	1/8W	
JR020	1-216-295-91	METAL GLAZE	0	5%	1/10W	
JR021	1-216-296-00	METAL GLAZE	0	5%	1/8W	
JR023	1-216-295-91	METAL GLAZE	0	5%	1/10W	
JR024	1-216-296-00	METAL GLAZE	0	5%	1/8W	
JR025	1-216-295-91	METAL GLAZE	0	5%	1/10W	
R001	1-216-222-91	METAL GLAZE	10K	5%	1/8W	
R002	1-216-057-91	METAL GLAZE	2.2K	5%	1/10W	
R004	1-216-238-00	METAL GLAZE	47K	5%	1/8W	
R005	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R006	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R008	1-216-031-91	METAL GLAZE	180	5%	1/10W	
R009	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R010	1-216-041-00	METAL GLAZE	470	5%	1/10W	
R011	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R012	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R013	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R014	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R015	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R016	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R017	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R018	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R019	1-216-174-91	METAL GLAZE	100	5%	1/8W	
R020	1-216-083-00	METAL GLAZE	27K	5%	1/10W	
R021	1-216-174-91	METAL GLAZE	100	5%	1/8W	
R022	1-216-295-91	METAL GLAZE	0	5%	1/10W	
R024	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R025	1-216-222-91	METAL GLAZE	10K	5%	1/8W	
R026	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R027	1-216-206-00	METAL GLAZE	2.2K	5%	1/8W	
R028	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R029	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R030	1-215-900-11	METAL OXIDE	22K	5%	2W	F
R031	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R032	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R033	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R034	1-249-432-11	CARBON	18K	5%	1/4W	
R035	1-247-863-91	CARBON	22K	5%	1/4W	
R036	1-216-059-91	METAL GLAZE	2.7K	5%	1/10W	
R037	1-216-057-91	METAL GLAZE	2.2K	5%	1/10W	
R039	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R040	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R042	1-216-230-00	METAL GLAZE	22K	5%	1/8W	
R044	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R045	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R046	1-216-105-91	METAL GLAZE	220K	5%	1/10W	
R047	1-216-077-00	METAL GLAZE	15K	5%	1/10W	
R049	1-216-041-00	METAL GLAZE	470	5%	1/10W	
R052	1-216-238-91	METAL GLAZE	47K	5%	1/8W	
R055	1-216-057-91	METAL GLAZE	2.2K	5%	1/10W	
R060	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W	
R061	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R062	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R063	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W	
R064	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R065	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R066	1-216-073-00	METAL GLAZE	10K	5%	1/10W	

REF.NO.	PART NO.	DESCRIPTION				REMARK
R067	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R068	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R069	1-247-863-91	CARBON	22K	5%	1/4W	
R070	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R071	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R072	1-216-230-00	METAL GLAZE	22K	5%	1/8W	
R073	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R074	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R075	1-249-436-11	CARBON	39K	5%	1/4W	
R078	1-216-071-91	METAL GLAZE	8.2K	5%	1/10W	
R079	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W	
R080	1-216-057-91	METAL GLAZE	2.2K	5%	1/10W	
R081	1-249-438-11	CARBON	56K	5%	1/4W	
R088	1-216-059-91	METAL GLAZE	2.7K	5%	1/10W	
R089	1-216-059-91	METAL GLAZE	2.7K	5%	1/10W	
R090	1-216-059-91	METAL GLAZE	2.7K	5%	1/10W	
R091	1-249-427-11	CARBON	6.8K	5%	1/4W	
R093	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R094	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R095	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R096	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R097	1-216-051-91	METAL GLAZE	1.2K	5%	1/10W	
R098	1-216-051-91	METAL GLAZE	1.2K	5%	1/10W	
R099	1-216-200-91	METAL GLAZE	1.2K	5%	1/8W	
R102	1-216-234-91	METAL GLAZE	33K	5%	1/8W	
R104	1-216-059-91	METAL GLAZE	2.7K	5%	1/10W	(KV-M1440B/M1441B)
R105	1-216-025-91	METAL GLAZE	100	5%	1/10W	(KV-M1440B/M1441B)
R106	1-216-053-00	METAL GLAZE	1.5K	5%	1/10W	(KV-M1440B/M1441B)
R107	1-216-017-00	METAL GLAZE	47	5%	1/10W	(KV-M1440B/M1441B)
R108	1-216-067-00	METAL GLAZE	5.6K	5%	1/10W	
R109	1-216-025-91	METAL GLAZE	100	5%	1/10W	(KV-M1440B/M1441B)
R110	1-216-101-00	METAL GLAZE	150K	5%	1/10W	
R111	1-216-085-00	METAL GLAZE	33K	5%	1/10W	
R112	1-216-057-91	METAL GLAZE	2.2K	5%	1/10W	(KV-M1440B/M1441B)
R113	1-216-057-91	METAL GLAZE	2.2K	5%	1/10W	(KV-M1440B/M1441B)
R114	1-216-073-00	METAL GLAZE	10K	5%	1/10W	(KV-M1440B/M1441B)
R115	1-216-057-91	METAL GLAZE	2.2K	5%	1/10W	(KV-M1440B/M1441B)
R116	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R117	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R118	1-216-075-00	METAL GLAZE	12K	5%	1/10W	
R122	1-216-025-91	METAL GLAZE	100	5%	1/10W	(KV-M1440K/M1441K/M1441KR)
	1-216-029-00	METAL GLAZE	150	5%	1/10W	(KV-M1440A/M1441A/M1440B/M1441B/M1440D/M1441D/M1440E/M1441E/M1440L/M1440U/M1441U)
R123	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R124	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R125	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R126	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R127	1-216-180-00	METAL GLAZE	180	5%	1/8W	

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REF.NO.	PART NO.	DESCRIPTION				REMARK
R128	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R133	1-249-429-11	CARBON	10K	5%	1/4W	
R134	1-216-029-00	METAL GLAZE	150	5%	1/10W	(KV-M1440L/M1440U/M1441U)
	1-216-031-91	METAL GLAZE	180	5%	1/10W	(KV-M1440A/M1441A/M1440B/M1441B/M1440D/M1441D/M1440E/M1441E/M1440K/M1441K/M1441KR)
R136	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W	
R137	1-216-109-00	METAL GLAZE	330K	5%	1/10W	
R138	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R141	1-216-057-91	METAL GLAZE	2.2K	5%	1/10W	
R142	1-216-057-91	METAL GLAZE	2.2K	5%	1/10W	
R143	1-216-295-91	METAL GLAZE	0	5%	1/10W	(KV-M1440A/M1441A/M1440B/M1441B/M1440D/M1441D/M1440E/M1441E/M1440L/M1440U/M1441U)
R144	1-216-057-91	METAL GLAZE	2.2K	5%	1/10W	(KV-M1440K/M1441K/M1441KR)
R145	1-216-057-91	METAL GLAZE	2.2K	5%	1/10W	(KV-M1440K/M1441K/M1441KR)
R146	1-216-043-91	METAL GLAZE	560	5%	1/10W	
R147	1-216-043-91	METAL GLAZE	560	5%	1/10W	(KV-M1441K/M1441KR)
R149	1-216-057-91	METAL GLAZE	2.2K	5%	1/10W	(KV-M1440K/M1441K/M1441KR)
R151	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R153	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R154	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R155	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R157	1-216-049-91	METAL GLAZE	1K	5%	1/10W	(KV-M1440B/M1441B)
R158	1-216-031-91	METAL GLAZE	180	5%	1/10W	(KV-M1440B/M1441B)
R159	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W	
R160	1-216-238-91	METAL GLAZE	47K	5%	1/8W	
R161	1-216-295-91	METAL GLAZE	0	5%	1/10W	(KV-M1440A/M1441A/M1440D/M1441D/M1440E/M1441E/M1440K/M1441K/M1441KR/M1440L/M1440U/M1441U)
R162	1-216-017-00	METAL GLAZE	47	5%	1/10W	(KV-M1440B/M1441B)
R163	1-247-811-31	CARBON	150	5%	1/4W	
R167	1-216-246-91	METAL GLAZE	100K	5%	1/8W	
R168	1-247-811-31	CARBON	150	5%	1/4W	
R169	1-216-073-00	METAL GLAZE	10K	5%	1/10W	(KV-M1440B/M1441B)
R170	1-216-063-00	METAL GLAZE	3.9K	5%	1/10W	(KV-M1440B/M1441B)
R171	1-216-069-00	METAL GLAZE	6.8K	5%	1/10W	(KV-M1440B/M1441B)
R175	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R176	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R177	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R178	1-216-055-00	METAL GLAZE	1.8K	5%	1/10W	
R179	1-216-212-91	METAL GLAZE	3.9K	5%	1/8W	
R180	1-216-049-91	METAL GLAZE	1K	5%	1/10W	(KV-M1440B/M1441B)
R205	1-247-741-11	CARBON	150	5%	1/2W	
R301	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R302	1-216-037-91	METAL GLAZE	330	5%	1/10W	
R303	1-216-090-00	METAL GLAZE	51K	5%	1/10W	
R304	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R305	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R307	1-216-121-00	METAL GLAZE	1M	5%	1/10W	
R308	1-216-234-91	METAL GLAZE	33K	5%	1/8W	
R309	1-216-121-00	METAL GLAZE	1M	5%	1/10W	
R310	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R311	1-216-093-00	METAL GLAZE	68K	5%	1/10W	
R312	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R313	1-216-045-00	METAL GLAZE	680	5%	1/10W	
R314	1-216-045-00	METAL GLAZE	680	5%	1/10W	
R315	1-216-045-00	METAL GLAZE	680	5%	1/10W	
R316	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R317	1-216-182-00	METAL GLAZE	220	5%	1/8W	
R318	1-216-019-91	METAL GLAZE	56	5%	1/10W	
R322	1-216-022-91	METAL GLAZE	75	5%	1/10W	
R323	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R325	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R333	1-216-037-91	METAL GLAZE	330	5%	1/10W	
R334	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R335	1-216-295-91	METAL GLAZE	0	5%	1/10W	
R336	1-216-296-00	METAL GLAZE	0	5%	1/8W	
R337	1-216-295-91	METAL GLAZE	0	5%	1/10W	
R339	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W	
R340	1-216-115-00	METAL GLAZE	560K	5%	1/10W	
R341	1-216-075-00	METAL GLAZE	12K	5%	1/10W	
R342	1-216-186-91	METAL GLAZE	330	5%	1/8W	
R343	1-216-295-91	METAL GLAZE	0	5%	1/10W	
R344	1-216-295-91	METAL GLAZE	0	5%	1/10W	
R345	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R347	1-216-041-00	METAL GLAZE	470	5%	1/10W	(KV-M1440B/M1441B)
R348	1-216-073-00	METAL GLAZE	10K	5%	1/10W	(KV-M1440B/M1441B)
R349	1-216-105-00	METAL GLAZE	220K	5%	1/10W	(KV-M1440B/M1441B)
R350	1-216-033-00	METAL GLAZE	220	5%	1/10W	(KV-M1440B/M1441B)
R351	1-216-292-11	METAL GLAZE	8.2M	5%	1/8W	
R352	1-216-262-91	METAL GLAZE	470K	5%	1/8W	
R353	1-247-804-11	CARBON	75	5%	1/4W	
R354	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R355	1-216-121-91	METAL GLAZE	1M	5%	1/10W	
R356	1-216-121-91	METAL GLAZE	1M	5%	1/10W	
R357	1-216-091-00	METAL GLAZE	56K	5%	1/10W	
R358	1-216-009-91	METAL GLAZE	22	5%	1/10W	
R361	1-216-022-91	METAL GLAZE	75	5%	1/10W	
R362	1-216-022-91	METAL GLAZE	75	5%	1/10W	
R363	1-216-022-91	METAL GLAZE	75	5%	1/10W	
R401	1-216-041-00	METAL GLAZE	470	5%	1/10W	
R402	1-249-431-11	CARBON	15K	5%	1/4W	
R403	1-249-431-11	CARBON	15K	5%	1/4W	
R405	1-249-389-11	CARBON	4.7	5%	1/4W	F
R406	1-216-091-00	METAL GLAZE	56K	5%	1/10W	
R407	1-216-041-00	METAL GLAZE	470	5%	1/10W	
R408	1-216-033-00	METAL GLAZE	220	5%	1/10W	

A and C

The components identified by shading and marked ⚠ are critical for safety.
Replace only with the part number specified.

Les composants identifies par une trame et une marque ⚠ sont critiques pour la securite.
Ne les remplacer que par une piece portant le numero specifie.

REF.NO.	PART NO.	DESCRIPTION				REMARK
R410	1-246-445-75	METAL GLAZE	68	5%	1/4W	
			(KV-M1440L/M1440U/M1441U)			
	1-246-446-75	METAL GLAZE	75	5%	1/4W	
		(KV-M1440A/M1441A/M1440B/M1441B/M1440D/ M1441D/M1440E/M1441E/M1440K/M1441K/ M1441KR)				
R411	1-216-085-00	METAL GLAZE	33K	5%	1/10W	
R412	1-216-105-91	METAL GLAZE	220K	5%	1/10W	
R413	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R414	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R415	1-216-222-91	METAL GLAZE	10K	5%	1/8W	
R416	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R501	1-208-806-11	METAL CHIP	10K	0.50%	1/10W	
R502	1-216-677-11	METAL CHIP	12K	0.50%	1/10W	
R503	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R504	1-216-095-00	METAL GLAZE	82K	5%	1/10W	
R505	1-216-075-00	METAL GLAZE	12K	5%	1/10W	
R506	1-216-079-00	METAL GLAZE	18K	5%	1/10W	
R507	1-216-350-11	METAL OXIDE	1.2	5%	1W	F
R508	1-215-865-11	METAL OXIDE	220	5%	1W	F
R509	1-249-383-11	CARBON	1.5	5%	1/4W	F
R512	1-215-888-00	METAL OXIDE	220	5%	2W	F
R513	1-249-425-11	CARBON	4.7K	5%	1/4W	
R514	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R515	1-215-912-11	METAL OXIDE	150	5%	3W	F
R600	1-216-365-00	METAL OXIDE	0.47	5%	2W	F
⚠ R601	1-205-909-11	WIREWOUND	3.3	5%	10W	
R603	1-215-860-11	METAL OXIDE	33	5%	1W	F
R604	1-215-927-00	METAL OXIDE	47K	5%	3W	F
R606	1-249-441-11	CARBON	100K	5%	1/4W	
R607	1-216-366-51	METAL OXIDE	0.56	5%	2W	F
R608	1-216-645-91	METAL CHIP	560	0.50%	1/10W	
R609	1-215-861-00	METAL OXIDE	47	5%	1W	F
R610	1-249-419-11	CARBON	1.5K	5%	1/4W	
R611	1-215-430-00	METAL	2.4K	1%	1/4W	
⚠ R612	1-202-719-00	SOLID	1M	10%	1/2W	
⚠ R614	1-218-265-11	METAL	8.2M	5%	1W	
R615	1-217-371-00	FUSIBLE	0.47	10%	1/4W	F
R617	1-216-659-11	METAL CHIP	2.2K	0.50%	1/10W	
R618	1-216-659-11	METAL CHIP	2.2K	0.50%	1/10W	
R620	1-215-479-00	METAL	270K	1%	1/4W	
R621	1-249-429-11	CARBON	10K	5%	1/4W	
R622	1-247-895-91	METAL GLAZE	470K	5%	1/4W	
R623	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R624	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R625	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R626	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R627	1-216-346-00	METAL OXIDE	0.56	5%	1W	F
R630	1-249-401-11	CARBON	47	5%	1/4W	
R701	1-216-198-91	METAL GLAZE	1K	5%	1/8W	
R702	1-249-417-11	CARBON	1K	5%	1/4W	
R705	1-216-166-00	METAL GLAZE	47	5%	1/8W	
R706	1-216-017-00	METAL GLAZE	47	5%	1/10W	
R707	1-216-166-00	METAL GLAZE	47	5%	1/8W	
R708	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R709	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R710	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R711	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R714	1-216-198-91	METAL GLAZE	1K	5%	1/8W	
R715	1-249-417-11	CARBON	1K	5%	1/4W	
R716	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R717	1-247-758-11	CARBON	3.3K	5%	1/2W	
R718	1-247-758-11	CARBON	3.3K	5%	1/2W	
R719	1-247-758-11	CARBON	3.3K	5%	1/2W	
R720	1-216-463-00	METAL OXIDE	12K	5%	2W	F
R721	1-216-463-00	METAL OXIDE	12K	5%	2W	F
R722	1-216-463-00	METAL OXIDE	12K	5%	2W	F
R726	1-202-719-00	SOLID	1M	10%	1/2W	
R727	1-202-838-00	SOLID	100K	10%	1/2W	
R729	1-216-348-00	METAL OXIDE	0.82	5%	1W	F
R731	1-202-719-00	SOLID	1M	10%	1/2W	
R734	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R735	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R736	1-247-815-91	CARBON	220	5%	1/4W	
R800	1-215-864-00	METAL OXIDE	150	5%	1W	F
R801	1-247-891-00	CARBON	330K	5%	1/4W	
R802	1-247-807-31	CARBON	100	5%	1/4W	
R803	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R804	1-217-778-11	FUSIBLE	1K	5%	1W	F
R806	1-216-353-00	METAL OXIDE	2.2	5%	1W	F
R807	1-216-013-00	METAL GLAZE	33	5%	1/10W	
R808	1-202-833-11	SOLID	18K	10%	1/2W	
R810	1-247-895-00	CARBON	470K	5%	1/4W	
R812	1-215-869-11	METAL OXIDE	1K	5%	1W	F
R814	1-217-811-11	FUSIBLE	0.47	5%	1/4W	
R816	1-216-369-00	METAL OXIDE	1	5%	2W	F
R817	1-216-447-00	METAL OXIDE	27	5%	2W	F
R818	1-202-813-00	SOLID	22K	10%	1/2W	
R819	1-249-441-11	CARBON	100K	5%	1/4W	
R820	1-217-820-11	FUSIBLE	3.3K	5%	1/4W	
		< VARIABLE RESISTOR >				
RV102	1-241-765-11	RES, ADJ, METAL GLAZE 22K				
						(KV-M1440B/M1441B)
RV703	1-230-641-11	RES, ADJ, METAL GLAZE 2.2M				
RV704	1-230-641-11	RES, ADJ, METAL GLAZE 2.2M				
		< SWITCH >				
S001	1-571-532-21	SWITCH, TACTIL				
S002	1-571-532-21	SWITCH, TACTIL				
S003	1-571-532-21	SWITCH, TACTIL				
S004	1-571-532-21	SWITCH, TACTIL				
S005	1-571-532-21	SWITCH, TACTIL				
S006	1-571-532-21	SWITCH, TACTIL				
⚠ S601	1-571-433-21	SWITCH, PUSH (AC POWER)				
		< TRANSFORMER >				
⚠ T601	1-427-962-11	TRANSFORMER, LINE FILTER				
⚠ T602	1-427-994-11	TRANSFORMER, CONVERTER				
T801	1-437-090-00	HDT				
⚠ T802	1-453-186-11	TRANSFORMER ASSY, FLYBACK (NX-1730/U2A) (KV-M1440A/M1441A/M1440B/M1441B/M1440D/ M1441D/M1440E/M1441E)				
⚠	1-453-186-11	TRANSFORMER ASSY, FLYBACK (NX-1731/U2A) (KV-M1440K/M1441K/M1441KR/M1440L/ M1440U/M1441U)				
		< THERMISTOR >				
⚠ THP601	1-806-165-12	THERMISTOR (POSITIVE)				

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Ne les remplacer que par une piece portant le numero specifie.

A and C | C

REF.NO.	PART NO.	DESCRIPTION	REMARK
		< TUNER >	
TU101	1-693-302-11	TUNER (UV1315)(KV-M1440K/M1441K/M1440L)	
	1-693-303-11	TUNER (TELE1X001A) (KV-M1440A/M1441A/M1441KR)	
	8-598-331-00	TUNER (BT-AC401) (KV-M1440B/M1441B/M1440D/M1441D/M1440E/M1441E)	
	8-598-333-00	TUNER (BT-AU601) (KV-M1440U/M1441U)	
		< CRYSTAL >	
X001	1-578-774-11	VIBRATOR, CRYSTAL	
X302	1-760-710-21	VIBRATOR, CRYSTAL	
**********			
*A-1638-063-A		C BOARD, COMPLETE (KV-M1440K/M1441K/M1441KR/M1440L/M1440U/M1441U)	
*A-1638-064-A		C BOARD, COMPLETE (KV-M1440A/M1441A/M1440B/M1441B/M1440D/M1441D/M1440E/M1441E)	
		< CAPACITOR >	
C701	1-163-127-00	CERAMIC CHIP 270PF 5% 50V	
C702	1-163-127-00	CERAMIC CHIP 270PF 5% 50V	
C703	1-163-129-00	CERAMIC CHIP 330PF 5% 50V	
C704	1-163-133-00	CERAMIC CHIP 470PF 5% 50V	
C705	1-163-133-00	CERAMIC CHIP 470PF 5% 50V	
C706	1-163-133-00	CERAMIC CHIP 470PF 5% 50V	
C707	1-136-189-00	FILM 0.1MF 10% 250V	
C709	1-162-114-00	CERAMIC 0.0047MF 2KV	
C710	1-124-477-11	ELECT 47MF 20% 16V	
C711	1-163-009-91	CERAMIC CHIP 0.001MF 10% 50V	
C712	1-163-009-91	CERAMIC CHIP 0.001MF 10% 50V	
C713	1-163-009-91	CERAMIC CHIP 0.001MF 10% 50V	
		< DIODE >	
D701	8-719-901-33	DIODE 1SS133	
D702	8-719-901-33	DIODE 1SS133	
D703	8-719-901-33	DIODE 1SS133	
D704	8-719-901-33	DIODE 1SS133	
D705	8-719-901-33	DIODE 1SS133	
D706	8-719-901-33	DIODE 1SS133	
D707	8-719-901-33	DIODE 1SS133	
D708	8-719-901-33	DIODE 1SS133	
D709	8-719-901-33	DIODE 1SS133	
		< CRT SOCKET >	
J701	⚠ 1-251-192-11	SOCKET, CRT	
		< TRANSISTOR >	
Q701	8-729-900-95	TRANSISTOR 2SC2785-HFE	
Q702	8-729-900-95	TRANSISTOR 2SC2785-HFE	
Q703	8-729-900-95	TRANSISTOR 2SC2785-HFE	
Q704	8-729-906-70	TRANSISTOR BF871-127	
Q705	8-729-906-70	TRANSISTOR BF871-127	
Q706	8-729-906-70	TRANSISTOR BF871-127	
Q707	8-729-200-17	TRANSISTOR 2SA1091-O	
Q708	8-729-200-17	TRANSISTOR 2SA1091-O	
Q709	8-729-200-17	TRANSISTOR 2SA1091-O	

REF.NO.	PART NO.	DESCRIPTION	REMARK
		< RESISTOR >	
R701	1-216-198-91	METAL GLAZE 1K 5% 1/8W	
R702	1-249-417-11	CARBON 1K 5% 1/4W	
R705	1-216-166-00	METAL GLAZE 47 5% 1/8W	
R706	1-216-017-00	METAL GLAZE 47 5% 1/10W	
R707	1-216-166-00	METAL GLAZE 47 5% 1/8W	
R708	1-216-033-00	METAL GLAZE 220 5% 1/10W	
R709	1-216-033-00	METAL GLAZE 220 5% 1/10W	
R710	1-216-033-00	METAL GLAZE 220 5% 1/10W	
R711	1-216-049-91	METAL GLAZE 1K 5% 1/10W	
R714	1-216-198-91	METAL GLAZE 1K 5% 1/8W	
R715	1-249-417-11	CARBON 1K 5% 1/4W	
R716	1-216-049-91	METAL GLAZE 1K 5% 1/10W	
R717	1-247-758-11	CARBON 3.3K 5% 1/2W	
R718	1-247-758-11	CARBON 3.3K 5% 1/2W	
R719	1-247-758-11	CARBON 3.3K 5% 1/2W	
R720	1-216-463-00	METAL OXIDE 12K 5% 2W F	
R721	1-216-463-00	METAL OXIDE 12K 5% 2W F	
R722	1-216-463-00	METAL OXIDE 12K 5% 2W F	
R726	1-202-719-00	SOLID 1M 10% 1/2W	
R727	1-202-838-00	SOLID 100K 10% 1/2W	
R729	1-216-348-00	METAL OXIDE 0.82 5% 1W F	
R731	1-202-719-00	SOLID 1M 10% 1/2W	
R734	1-216-033-00	METAL GLAZE 220 5% 1/10W	
R735	1-216-033-00	METAL GLAZE 220 5% 1/10W	
R736	1-247-815-91	CARBON 220 5% 1/4W	
		< VARIABLE RESISTOR >	
RV703	1-230-641-11	RES, ADJ, METAL GLAZE 2.2M	
RV704	1-230-641-11	RES, ADJ, METAL GLAZE 2.2M	
**********			

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Replace only with the part number specified.

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Ne les remplacer que par une piece portant le numero specifie.

REF.NO.	PART NO.	DESCRIPTION	REMARK
		MISCELLANEOUS	
		**********	
⚠	1-426-145-21	COIL, DEGAUSSING	
⚠	1-451-249-31	DEFLECTION YOKE (Y14NDA2) (KV-M1440A/M1441A/M1440B/M1441B/M1440D/ M1441D/M1440E/M1441E)	
⚠	8-451-249-84	DEFLECTION YOKE (Y14NDA2) (KV-M1440K/M1441K/M1441KR/M1440L/ M1440U/M1441U)	
	1-452-032-00	MAGNET, DISK; 10MM Ø	
	1-452-094-00	MAGNET, ROTATABLE DISK; 15MM Ø	
	1-452-277-13	MAGNET, BMC	
⚠	1-453-186-11	TRANSFORMER ASSY, FLYBACK (NX-1730/U2A) (KV-M1440A/M1441A/M1440B/M1441B/M1440D/ M1441D/M1440E/M1441E)	
⚠	1-453-186-11	TRANSFORMER ASSY, FLYBACK (NX-1731/U2A) (KV-M1440K/M1441K/M1441KR/M1440L/ M1440U/M1441U)	
	1-504-899-11	SPEAKER (9x5CM)	
⚠	1-540-007-11	CAP ASSY, HIGH-VOLTAGE	
⚠	1-571-433-11	SWITCH, PUSH (AC POWER)	
⚠	1-590-460-11	CORD, POWER (WITH CONNECTOR) 7.0A/250V (KV-M1440K/M1441K/M1441KR)	
⚠	1-590-762-11	CORD, POWER (WITH PLUG) 2.5A/250V (KV-M1440L/M1440U/M1441U)	
⚠	1-690-270-11	CORD, POWER (WITH CONNECTOR) 2.5A/250V (KV-M1440A/M1441A/M1440B/ M1441B/M1440D/M1441D/ M1440E/M1441E)	
	1-693-302-11	TUNER (UV1315)(KV-M1440K/M1441K/M1440L)	
	1-693-303-11	TUNER (TELE1X001A) (KV-M1440A/M1441A/M1441KR)	
	8-598-331-00	TUNER (BT-AC401) (KV-M1440B/M1441B/M1440D/M1441D/M1440E/ M1441E)	
	8-598-333-00	TUNER (BT-AU601) (KV-M1440U/M1441U)	
V901 ⚠	8-735-561-05	PICTURE TUBE (SD-125)(A34JBU10X) (KV-M1440A/M1441A/M1440B/M1441B/M1440D/ M1441D/M1440E/M1441E)	
V901 ⚠	8-735-562-05	PICTURE TUBE (SD-125)(A34JBU70X) (KV-M1440K/M1441K/M1441KR/M1440L/ M1440U/M1441U)	

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REF.NO.	PART NO.	DESCRIPTION	REMARK
		ACCESSORIES AND PACKING MATERIALS	
		**********	
	4-203-018-61	MANUAL, INSTRUCTION (ENGLISH)	
	4-203-018-91	MANUAL, INSTRUCTION (ENGLISH/RUSSIAN/CZECH/HUNGARIAN/ POLISH/BULGARIAN)	
	4-203-044-11	MANUAL, INSTRUCTION (ENGLISH/DANISH/SWEDISH/FINNISH/GREEK)	
	4-203-044-41	MANUAL, INSTRUCTION (ITALIAN)	
	4-203-044-51	MANUAL, INSTRUCTION (FRENCH/GERMAN/ITALIAN)	
	4-203-044-71	MANUAL, INSTRUCTION (SPANISH/PORTUGUESE)	
	4-203-048-11	MANUAL, INSTRUCTION (ENGLISH/DANISH/SWEDISH/FINNISH/GREEK)	
	*4-203-023-01	INDIVIDUAL CARTON (KV-M1440K/M1441K/M1441KR/M1440L/ M1440U/M1441U)	
	*4-203-023-11	INDIVIDUAL CARTON (KV-M1440A/M1441A/M1440B/M1441B/M1440D M1441D/M1440E/M1441E)	
	*4-203-024-01	CUSHION (UPPER) (ASSY) (KV-M1440K/M1441K/M1441KR/M1440L/ M1440U/M1441U)	
	*4-203-024-11	CUSHION (UPPER) (ASSY) (KV-M1440A/M1441A/M1440B/M1441B/M1440D M1441D/M1440E/M1441E)	
	*4-203-025-01	CUSHION (BOTTOM) (ASSY) (KV-M1440K/M1441K/M1441KR/M1440L/ M1440U/M1441U)	
	*4-203-025-11	CUSHION (BOTTOM) (ASSY) (KV-M1440A/M1441A/M1440B/M1441B/M1440D M1441D/M1440E/M1441E)	
	*4-393-126-01	BAG, PROTECTION	
		REMOTE COMMANDER	
		**********	
	1-473-194-11	COMMANDER, STANDARD TYPE (RM-836)	

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SERVICE MANUAL

BE-4 CHASSIS

MODEL	COMMANDER	DEST.	CHASSIS NO.	MODEL	COMMANDER	DEST.	CHASSIS NO.
KV-M1440A	RM-836	Italian	SCC-H64A-A	KV-M1441E	RM-836	Spanish	SCC-H66B-A
KV-M1441A	RM-836	Italian	SCC-H64B-A	KV-M1440K	RM-836	OIRT	SCC-H52A-A
KV-M1440B	RM-836	French	SCC-H65A-A	KV-M1441K	RM-836	OIRT	SCC-H52B-A
KV-M1441B	RM-836	French	SCC-H65B-A	KV-M1441KR	RM-836	Russian	SCC-H52C-A
KV-M1440D	RM-836	AEP	SCC-H46B-A	KV-M1440L	RM-836	Irish	SCC-H51A-A
KV-M1441D	RM-836	AEP	SCC-H46A-A	KV-M1440U	RM-836	UK	SCC-H50B-A
KV-M1440E	RM-836	Spanish	SCC-H66A-A	KV-M1441U	RM-836	UK	SCC-H50A-A

SUPPLEMENT - 1

SUBJECT : SUFFIX CHANGE OF A & C BOARD
FROM 11 - 12

File this supplement with the service manual

Section *Title* *Page*

5. DIAGRAMS
5-3. Schematic Diagrams and Printed Wiring Board
* A Board 2
* C Board 5

6. EXPLODED VIEWS
6-1. Chassis and Picture Tube 6

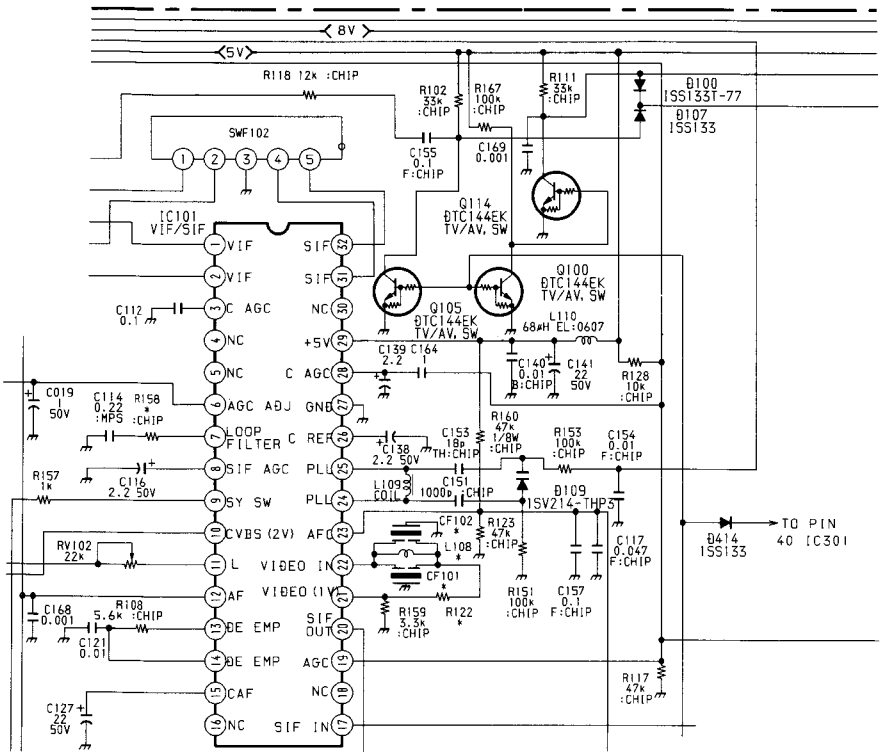
7. ELECTRICAL PARTS LIST 7

MICROFILM

TRINITRON® COLOR TV

SONY®

— A BOARD —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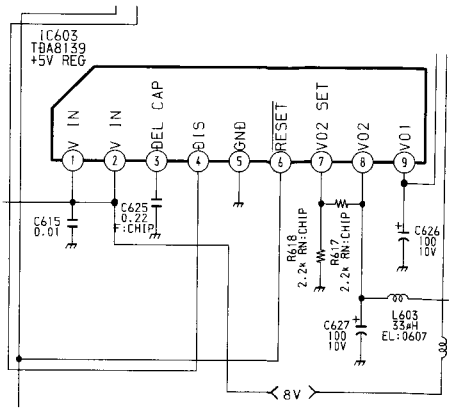
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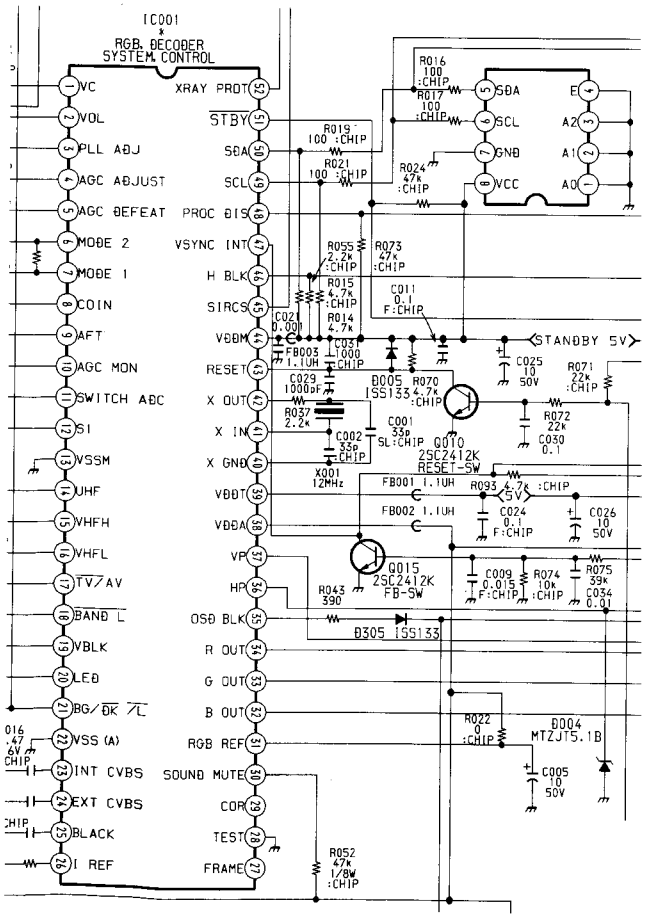
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RESET-SW
D004
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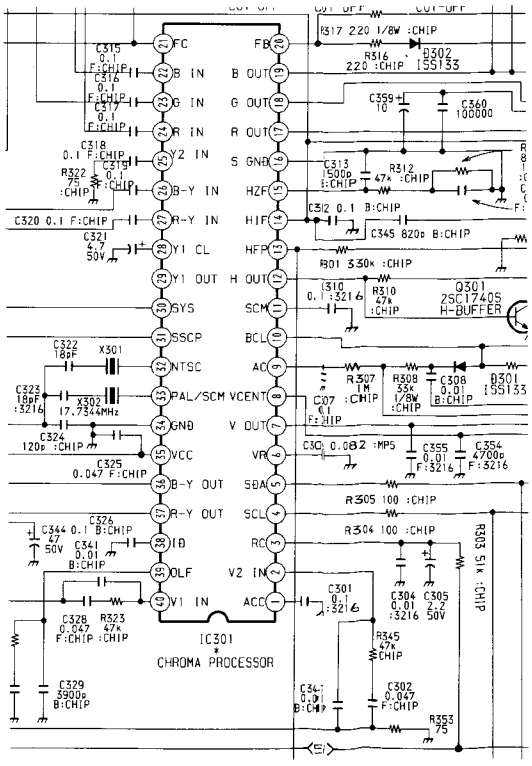
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D301
1SS133

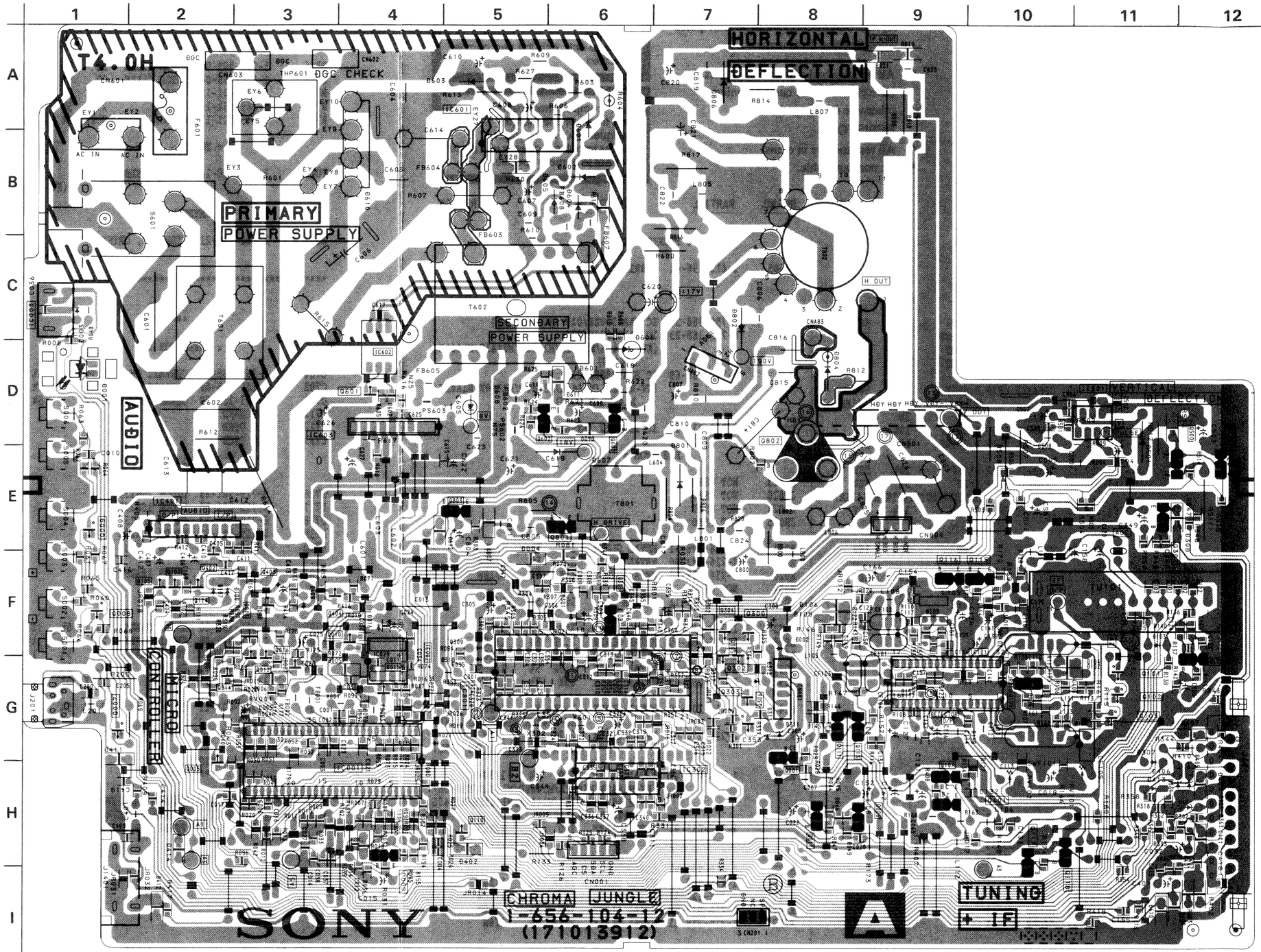
A [SYSTEM CONTROL, HORIZONTAL OUTPUT, VERTICAL OUTPUT, CHROMINANCE, POWER, AUDIO]

A BOARD

IC		DIODE	
IC001	H-4	D001	D-1
IC002	G-4	D002	F-8
IC003	C-1	D004	F-5
IC101	G-10	D005	G-4
IC301	G-5	D014	I-4
IC302	H-7	D100	F-3
IC401	E-2	○ D102	G-11
IC501	D-11	○ D104	G-11
IC601	A-5	○ D105	F-8
IC603	E-3	○ D106	F-8
TRANSISTOR		D107	F-2
Q001	H-8	D109	F-9
Q002	I-4	D301	F-6
Q005	H-2	D302	F-7
Q006	H-9	○ D307	G-11
Q007	G-1	○ D308	E-12
Q008	F-1	D309	G-5
Q009	E-1	D310	G-5
Q010	F-4	D311	G-8
Q011	H-8	D312	G-8
Q012	G-3	D313	G-8
Q013	G-3	D401	H-12
Q014	G-2	D402	H-5
Q015	G-4	D403	H-12
Q100	F-2	D404	H-12
○ Q101	G-11	D405	H-12
○ Q102	G-11	D406	H-12
○ Q103	G-11	D407	G-12
Q105	F-2	D408	I-12
Q107	H-9	D409	F-3
○ Q109	G-10	D410	I-12
Q111	G-8	D501	E-11
Q113	G-9	D600	D-6
○ Q115	F-10	D601	A-6
○ Q116	F-9	D602	B-6
Q300	F-7	D603	A-5
Q301	F-6	D604	B-6
Q302	G-7	D605	B-6
Q303	G-7	D606	D-6
Q304	F-7	D607	E-6
Q305	G-7	D608	D-5
Q306	G-8	D610	B-4
○ Q307	E-12	D611	D-6
Q401	H-10	D612	E-5
Q402	F-2	D802	C-7
Q403	F-3	D804	D-8
Q404	F-4	D806	A-7
Q500	E-12	D807	E-5
Q501	E-12		
Q600	D-6		
Q602	D-6		
Q801	E-6		
Q802	D-8		
Q803	E-5		

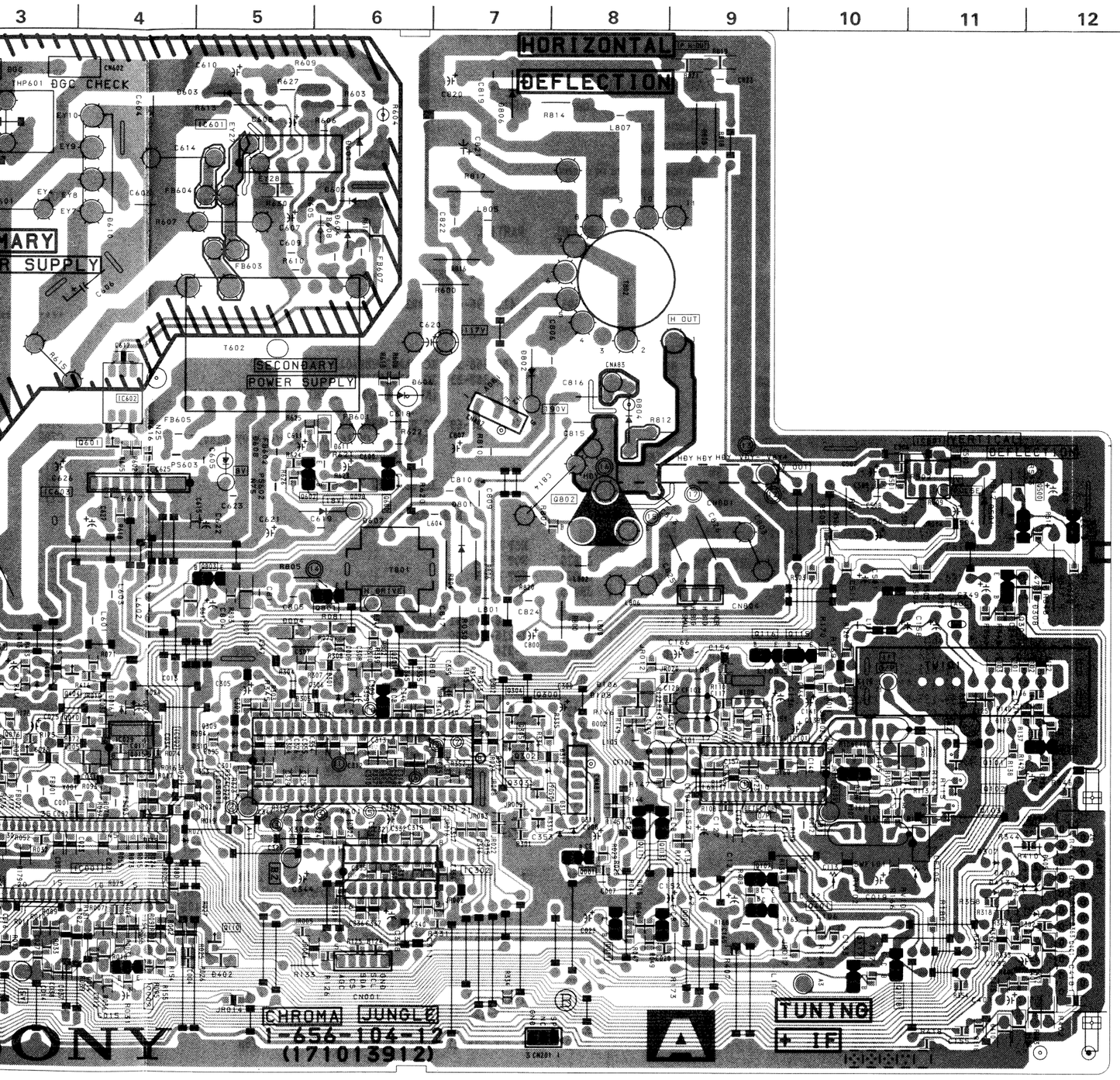
○ Mark : M1440B,M1441B ONLY

— A BOARD —



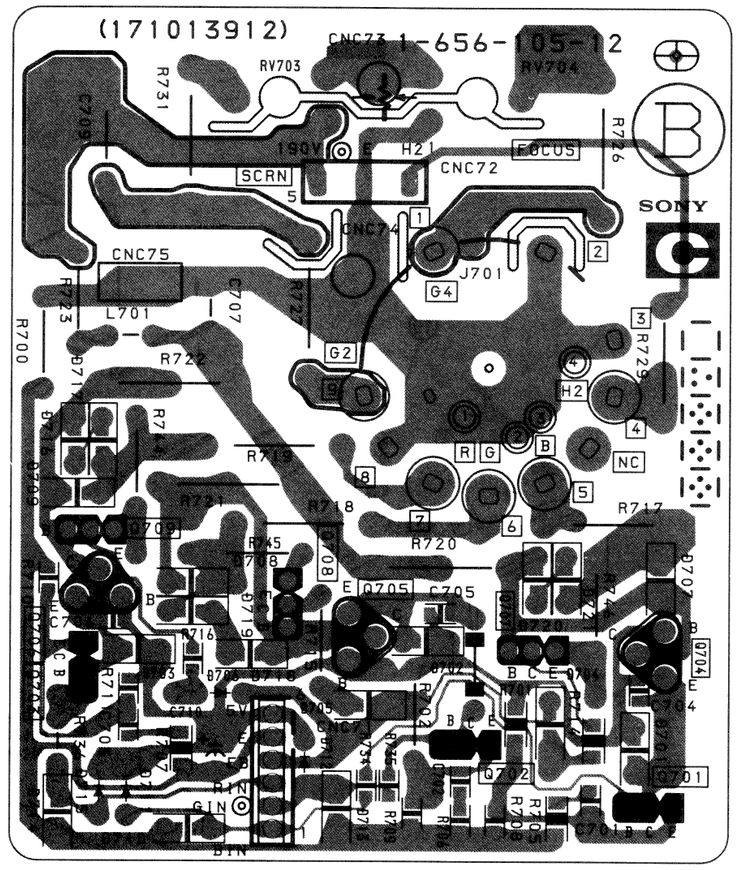
AL OUTPUT,
NCE,

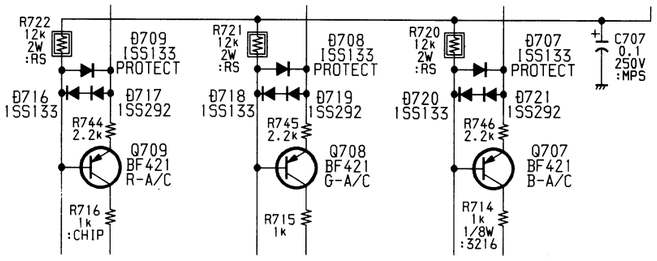
3 4 5 6 7 8 9 10 11 12



C [R.G.B OUT]

— C BOARD —





SECTION 6
EXPLODED VIEWS

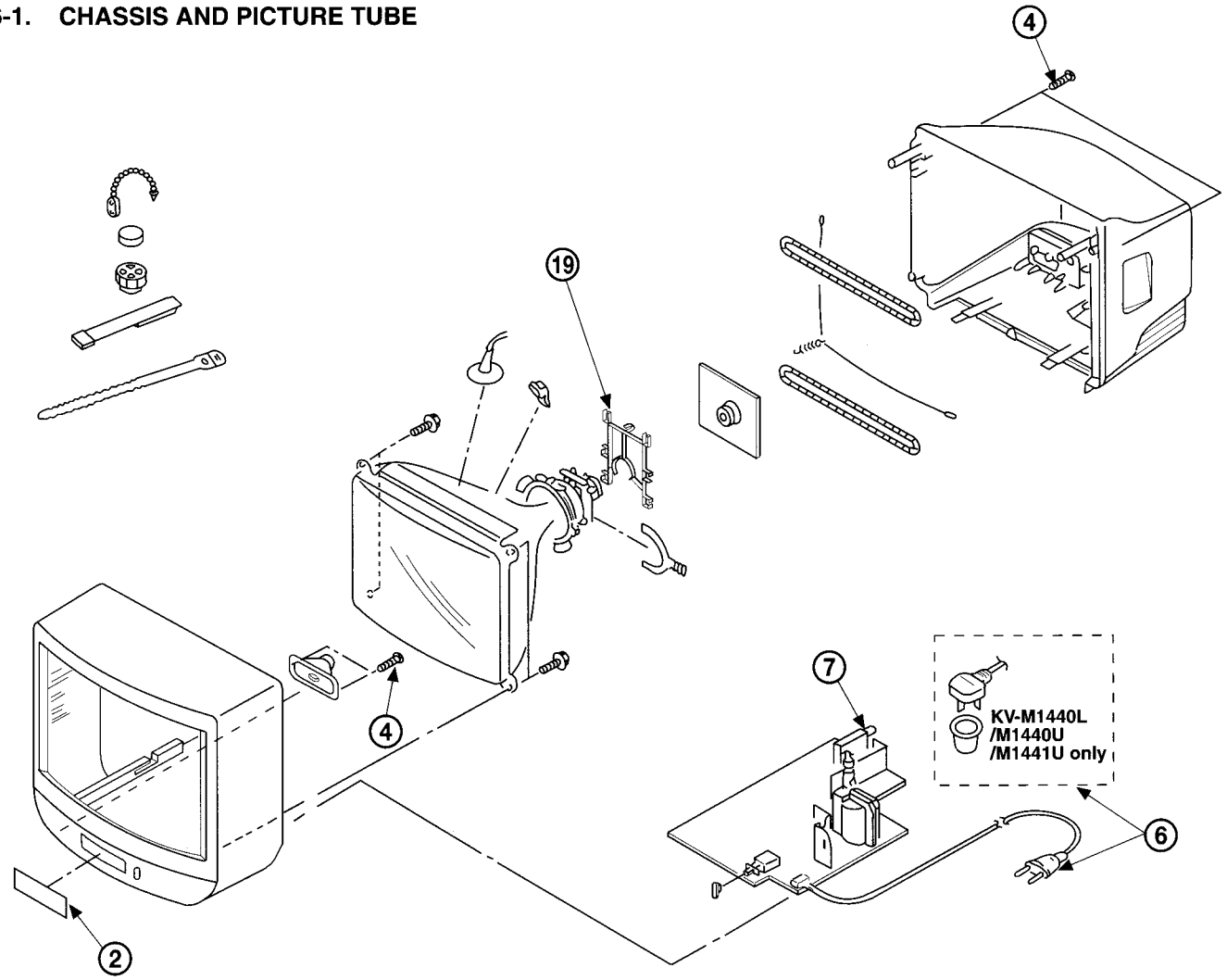
NOTE :

- Items with no part number and no description are not stncked because they are seldom required for routine service.
- The construction parts of an assembled part are indicated with a collation number in the remarks column.
- Items marked " * " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

The components identified by shading and marked ! are critical for safety.
Replace only with the part number. specified.

Les composants identifies par une trame et une marque ! sont critiques pour la securite.
Ne les remplacer que par une piece portant le numero specifie.

6-1. CHASSIS AND PICTURE TUBE



REF NO	PART NO	DESCRIPTION	REMARK
2	4-203-014-21	WINDOW, ORNAMENTAL (KV-M1441A)	
4	7-685-663-79	SCREW (4x16), (+)BV TAPPING	
6	⚠ 1-690-270-11	CORD, POWER (WITH CONNECTOR), 2.5A/250V (KV-M1440K/M1441K/M1441KR)	
7	8-598-331-00	TUNER (TELE4X002A) (KV-M1440B/M1441B)	
19	*4-203-097-01	HOLDER, HV	

SECTION 7

ELECTRICAL PARTS LIST

When indicating parts by reference number, please include the board name.

CAPACITORS MF : mF, PF : mmF

COILS MMH : mH, μH : mH

- Items marked " * " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.

RESISTORS

- All resistors are in ohms
- F : nonflammable

The components identified by shading and marked ⚠ are critical for safety.
Replace only with the part number specified.

Les composants identifies par une trame et une marque ⚠ sont critiques pour la securite.
Ne les remplacer que par une piece portant le numero specifie.

REF.NO.	PART NO.	DESCRIPTION	REMARK
		A AND C BOARD	
		**********	
		< CAPACITOR >	
C009	NOT USED		
C012	1-163-038-91	CERAMIC CHIP 0.1MF 50V	
C021	1-163-059-00	CERAMIC CHIP 0.001MF 10% 50V	
C030	1-164-232-11	CERAMIC CHIP 0.01MF 10% 50V	
C034	1-163-153-00	FILM 0.01MF 5% 50V	
C131	1-163-141-00	CERAMIC CHIP 0.01UF 5% 50V	(KV-M1440K/M1441K/M1441KR)
C153	1-163-097-00	CERAMIC CHIP 15PF 5% 50V	
C168	1-163-205-00	CERAMIC CHIP 0.001MF 10% 50V	
C169	1-163-009-11	CERAMIC CHIP 0.001MF 10% 50V	
C313	1-163-007-11	CERAMIC CHIP 680PF 10% 50V	
C322	1-163-099-00	CERAMIC CHIP 18PF 5% 50V	(KV-M1440K/M1441K/M1441KR)
C325	1-164-004-11	CERAMIC CHIP 0.1MF 10% 50V	
C334	NOT USED		
C344	1-126-967-11	ELECT 47MF 20% 16V	
C351	NOT USED		
C615	1-164-232-11	CERAMIC CHIP 0.01MF 10% 50V	
C622	1-111-041-11	ELECT 0.001MF 20% 16V	
C701	1-163-135-00	CERAMIC CHIP 560PF 5% 50V	
C702	1-163-135-00	CERAMIC CHIP 560PF 5% 50V	
C703	1-163-135-00	CERAMIC CHIP 560PF 5% 50V	
C711	NOT USED		
C712	NOT USED		
C713	NOT USED		
		< DIODE >	
D002	8-759-057-56	DIODE HZT33-02RE	
D305	NOT USED		
D309	NOT USED		
D311	NOT USED		
D312	NOT USED		
D313	NOT USED		
D315	8-719-901-33	DIODE 1SS133	
D414	8-719-901-33	DIODE 1SS133	
D716	8-719-901-33	DIODE 1SS133	
D717	8-719-054-81	DIODE 1SS292	
D718	8-719-901-33	DIODE 1SS133	
D719	8-719-054-81	DIODE 1SS292	
D720	8-719-901-33	DIODE 1SS133	
D721	8-719-054-81	DIODE 1SS292	

REF.NO.	PART NO.	DESCRIPTION	REMARK
		< FERRITE BEAD >	
FB605	1-410-396-41	FERRITE BEAD INDUCTOR 0.45UH	
		< IC >	
IC001	8-759-368-24	IC SAA5290ZP/015 (KV-M1441KR)	
	8-759-368-23	IC SAA5290ZP/014 (KV-M1441A/M1441B/M1441D/M1441E/M1441K/M1441U)	
	8-759-368-69	IC SAA5288ZP/014 (KV-M1440A/M1440B/M1440D/M1440E/M1440K/M1440L/M1440U)	
IC101	8-759-333-17	IC TDA9812 (KV-M1440B/M1441B)	
		< RESISTOR >	
JR013	NOT USED		
JR020	NOT USED		
JR024	NOT USED		
JR025	NOT USED		
R001	1-216-198-91	METAL GLAZE 1K 5% 1/8W	
R002	1-216-033-00	METAL GLAZE 220 5% 1/10W	
R020	1-216-089-00	METAL GLAZE 47K 5% 1/10W	
R004	NOT USED		
R034	1-249-429-11	CARBON 10K 5% 1/4W	
R043	1-249-412-11	CARBON 390 5% 1/4W	
R088	1-216-061-00	METAL GLAZE 3.3K 5% 1/10W	
R089	1-216-061-00	METAL GLAZE 3.3K 5% 1/10W	
R090	1-216-061-00	METAL GLAZE 3.3K 5% 1/10W	
R094	1-216-085-00	METAL GLAZE 33K 5% 1/10W	
R144	1-216-206-00	METAL GLAZE 2.2K 5% 1/8W	(KV-M1440K/M1441K/M1441KR)
R145	1-216-206-00	METAL GLAZE 2.2K 5% 1/8W	(KV-M1440K/M1441K/M1441KR)
R158	1-216-039-00	METAL GLAZE 390 5% 1/10W	(KV-M1440A/M1441A/M1440D/M1441D/M1440E/M1441E/M1440K/M1441K/M1441KR/M1440L M14410U/M1441U)
	1-216-031-91	METAL GLAZE 180 5% 1/10W	(KV-M1440B/M1441B)
R177	1-216-295-91	CONDUCTOR, CHIP	
R312	1-216-097-91	METAL GLAZE 100K 5% 1/10W	
R340	1-216-121-91	METAL GLAZE 1M 5% 1/10W	
R341	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R352	1-216-278-11	METAL GLAZE 2.2M 5% 1/8W	
R361	1-216-023-00	METAL GLAZE 82 5% 1/10W	

The components identified by shading and marked ! are critical for safety.
Replace only with the part number specified.

Les composants identifies par une trame et une marque ! sont critiques pour la securite.
Ne les remplacer que par une piece portant le numero specifie.

REF.NO.	PART NO.	DESCRIPTION	REMARK
R362	1-216-023-00	METAL GLAZE 82 5% 1/10W	
R363	1-216-023-00	METAL GLAZE 82 5% 1/10W	
R509	1-249-380-11	CARBON 0.82 5% 1/4W	
R705	1-216-158-00	METAL GLAZE 22 5% 1/8W	
R706	1-216-009-00	METAL GLAZE 22 5% 1/10W	
R707	1-216-158-00	METAL GLAZE 22 5% 1/8W	
R744	1-249-421-11	CARBON 2.2K 5% 1/4W	
R745	1-249-421-11	CARBON 2.2K 5% 1/4W	
R746	1-249-421-11	CARBON 2.2K 5% 1/4W	
		< TUNER >	
TU101	1-693-310-11	TUNER (TELE4X002A)	(KV-M1440B/M1441B)
		< CRYSTAL >	
X301	1-760-907-21	VIBRATOR, CRYSTAL	(KV-M1440K/M1441K/M1441KR)
		**********	
		C BOARD	
		*******	
		< CAPACITOR >	
C701	1-163-135-00	CERAMIC CHIP 560PF 5% 50V	
C702	1-163-135-00	CERAMIC CHIP 560PF 5% 50V	
C703	1-163-135-00	CERAMIC CHIP 560PF 5% 50V	
C711	NOT USED		
C712	NOT USED		
C713	NOT USED		
		< DIODE >	
D716	8-719-901-33	DIODE 1SS133	
D717	8-719-054-81	DIODE 1SS292	
D718	8-719-901-33	DIODE 1SS133	
D719	8-719-054-81	DIODE 1SS292	
D720	8-719-901-33	DIODE 1SS133	
D721	8-719-054-81	DIODE 1SS292	
		< RESISTOR >	
R705	1-216-158-00	METAL GLAZE 22 5% 1/8W	
R706	1-216-009-00	METAL GLAZE 22 5% 1/10W	
R707	1-216-158-00	METAL GLAZE 22 5% 1/8W	
R744	1-249-421-11	CARBON 2.2K 5% 1/4W	
R745	1-249-421-11	CARBON 2.2K 5% 1/4W	
R746	1-249-421-11	CARBON 2.2K 5% 1/4W	
		**********	
		MISCELLANEOUS	
		*************	
!	1-690-270-11	CORD, POWER (WITH CONNECTOR) 2.5A/250V (KV-M1440K/M1441K/M1441KR)	
	8-598-331-00	TUNER (TELE4X002A) (KV-M1440B/M1441B)	

REF.NO.	PART NO.	DESCRIPTION	REMARK
		ACCESSORIES AND PACKING MATERIALS	
		**********	
	1-417-154-11	MATCHING TRANSFORMER, ANTENNA (KV-M1440A/M1441A/M1440B/M1441B/M1440D M1441D/M1440E/M1441E/M1440K/M1441K M1441KR/M1440L)	
	1-501-730-11	ANTENNA, TELESCOPIC (KV-M1440A/M1441A/M1440B/M1441B/M1440D M1441D/M1440E/M1441E)	
	1-501-615-21	ANTENNA, LOOP (KV-M1440U/M1441U)	
	X-4200-193-3	SWIVEL ASSY (KV-M1440A/M1441A/M1440B/M1441B/M1440D M1441D/M1440E/M1441E/M1440K/M1441K	
	X-4200-193-1	SWIVEL ASSY (KV-M1441KR/M1440K/M1441K/M1440L/M1440U M1441U)	

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TV & Display Products Div.

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